

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Walter W. Collins  
Application No. : 09/680,697  
Filed : October 6, 2000  
For : FOLDING KNIFE WITH ACTUATABLE SAFETY LOCKING  
MECHANISM

Examiner : Clark F. Dexter  
Art Unit : 3724  
Docket No. : 530055.413R1  
Date : September 3, 2008

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

APPELLANT'S BRIEF

Commissioner for Patents:

This brief is in furtherance of the Notice of Appeal, filed in this case on June 12, 2008. The fees required under Section 41.20, and any required request for extension of time for filing this brief and fees therefor, are dealt with in the accompanying papers.

I. REAL PARTY IN INTEREST

The real party in interest is KAI U.S.A., Ltd., dba Kershaw Knives, which is the assignee of the present invention, as evidenced by the assignment set forth at Reel 016206, Frame 0933. The assignment of record is to KAI U.S.A., Ltd., dba Kershaw Knives, having an address at 18600 S.W. Teton Avenue, Tualatin, Oregon 97062.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which directly affect or will be directly affected by or have a bearing on the Board's decision in this appeal.

### III. STATUS OF CLAIMS

Claims 1-13, 15-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60, 62, 63, 65 and 66 are pending in the application. Claims 1-13 and 15-22 are allowed. Claims 23-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60, 62, 63, 65 and 66 stand rejected by the Examiner as noted in the Office Action mailed March 13, 2008. Claims 14, 26, 30-33, 35, 38-44, 46-51, 53, 55-57, 61 and 64 are canceled. The rejections of claims 23-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60, 62, 63, 65 and 66 are being appealed.

### IV. STATUS OF AMENDMENTS

A Final Office Action was mailed March 13, 2008 (hereinafter "Final Office Action"). In response to this Final Office Action, a Notice of Appeal was filed on June 12, 2008. No amendments have been filed in response to the Final Office Action mailed March 13, 2008.

### V. SUMMARY OF CLAIMED SUBJECT MATTER

A user frequently has a need to open a pocket knife with one hand. As one example, if he has rope in one hand that he needs to cut at a specific place, with this invention, he can continue to hold the rope with one hand at the desired location, remove the knife from his pocket with his other hand, open the knife with that other hand, and then use the knife to cut the rope he is holding. This was not possible with any knife of the prior art.

Compare the usefulness of a knife that can be opened with one hand to the prior art, standard pocket knife. In the prior art, a user needed to set the rope down, use two hands to open the knife, one to hold the handle and the other to pull out the blade, then, once the knife is open, transfer it to one hand, while picking up the rope again to cut it at the correct location.

A further advantage is that the knife can easily be opened by a person while wearing gloves. They do not need to take their gloves off in order to open this knife, they can do so just as easily, or perhaps even more easily while wearing gloves than without them on.

The benefit to the rancher, farmer, hiker, field worker, mechanic and everyday user to a knife that can be opened with one hand is tremendous. There are many situations in which being able to open the knife with a single hand is not only beneficial, but essential to facilitate use of the knife.

The product that is the subject of this reissue patent application received the 1997 Blade Show “Most Innovative American Design” award.<sup>1</sup> It opened up a whole new class of knives: assisted opening knives. Prior to this invention, the only spring loaded knife that could be opened with one hand was a switchblade, (also called an automatic knife) and these are illegal under various Federal and state laws. A knife made according to this invention is not a switchblade and has been specifically ruled as legal under Federal knife laws.

The claimed embodiments of the reissue application cover this spring assisted knife. The claims are directed to a folding knife, also called a pocket knife, and in particular to aspects related to a mechanism having a spring or bias element that retains the blade in a closed position and also allows the blade to be readily opened with one hand (**1:61-67**).<sup>2</sup> The same spring that assists to open the knife, also holds the blade closed when the knife is in the closed positioned. The user must manually move the knife a certain distance from the closed position towards the open position before the spring will begin to assist in opening the knife. They can do this by engaging ridges on the tang of the blade with their finger or by pressing their thumb into a contact pin on the blade itself. This is explained in detail, below.

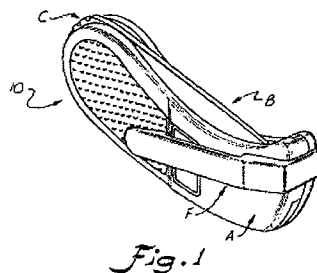


Figure 1  
(Figure 1 of application)

Figure 1 shows a folding knife 10 having a handle A, a blade B, and a blade engagement portion C (**3:13-16**). As illustrated in Figures 2-4 (Figures 4A-4C of application), the blade B is connected to the handle for pivotal movement from a retracted position (Figure 2)

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<sup>1</sup> See the current attached printout from the web site at [www.meyercousa.com/about.lasso](http://www.meyercousa.com/about.lasso) (attached hereto as Appendix A).

<sup>2</sup> For brevity, where specific passages of the specification are cited, they will be indicated, in bold text, by a column number separated from a line number by a colon, e.g., **4:12**, indicating column 4, line 12.

through an intermediate position (Figure 3) to an extended position (Figure 4). In the retracted position, a spring 90 that is part of a plunger mechanism E retains the blade B in the retracted state in order to prevent the blade B from falling out of the handle during nonuse (4:61-64). The spring 90 also assists in maintaining the blade B in the extended position with sufficient force so that the blade B may be used without being locked open (4:64-5:4). A locking member D is provided to supply additional means for holding the blade B in the extended position. In the illustrated embodiment, locking member D is depressed to lock the blade B in the extended position (5:4-7).

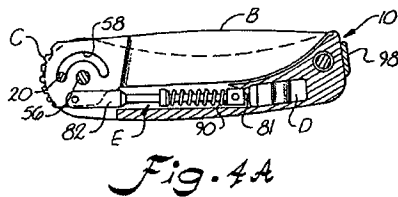


Figure 2  
(Figure 4A of application)

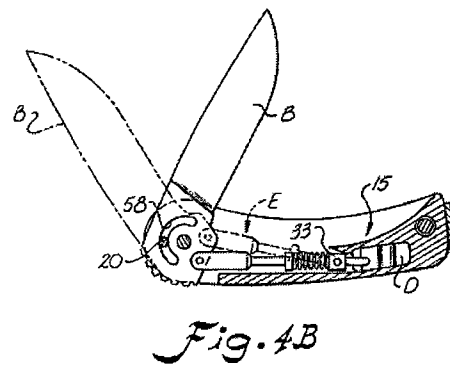


Figure 3  
(Figure 4B of application)

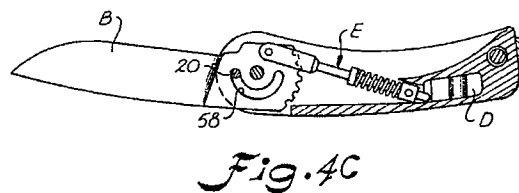


Figure 4  
(Figure 4C of application)

The spring 90 provides a biasing force to the blade B, such that when the blade B is in a retracted position (Figure 2) or a partially deployed position (as illustrated by the solid-lined blade in Figure 3), the spring biases the blade B toward the retracted position, and when the blade is in an extended position (Figure 4) or a partially closed position (as illustrated by the dashed-lined blade in Figure 3), the spring biases the blade B toward the extended position. When the blade is in the retracted position, the spring 90 safely retains the blade therein, until a

user applies an opening force to the blade B and manually moves the blade toward an intermediate position. (Appellant points out that the inventive knife is legal under Federal law and is not classified as a switchblade or an automatic knife because of these features.)

When the blade B is moved manually past the intermediate position, the spring biases the blade B toward the extended position, thus assisting in opening the blade B. Figures 5A to 5C of the as filed application (reproduced as Figures 5-7, below) show how the user is able to open the knife with only one hand.

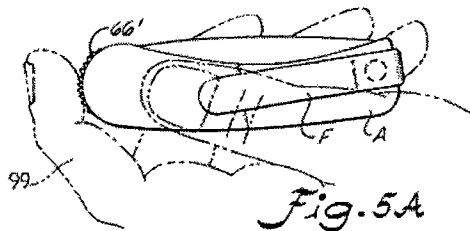


Figure 5  
(Figure 5A of application)

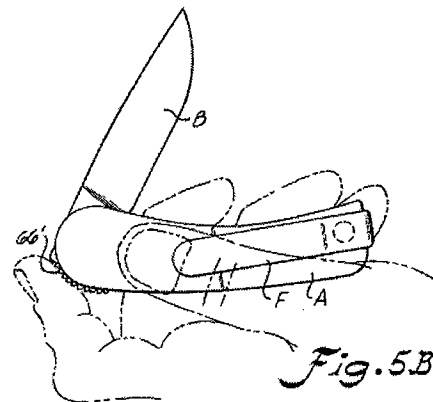


Figure 6  
(Figure 5B of application)

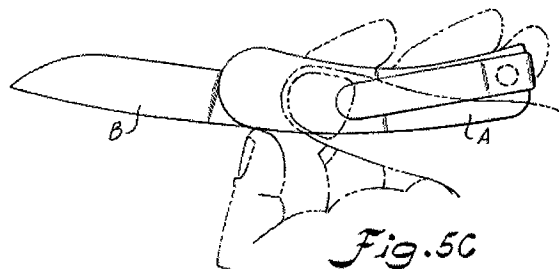


Figure 7  
(Figure 5C of application)

To facilitate opening the blade B with one hand, a user places their finger on the tang of the blade, as shown in Figure 5, above, and is able to gain purchase of an engagement profile, for example, a plurality of upstanding ridges 66', located on the blade B and pull the blade B toward the intermediate position past which point the spring 90 assists in moving the

blade B to the extended position (5:8-17). Alternatively, a contact pin may be provided such that the user can apply an opening force to the blade with a thumb or a finger of the hand holding the knife (5:40-45). The user then moves the blade from the closed position towards the open position, as shown in Figure 6, above. Once the blade reaches the intermediate position shown in Figure 6, towards partly open, the spring 90 transitions from assisting to close the knife to assisting to open the knife, and rapidly opens to the fully open position, as shown in Figure 7.

As pointed out in the application as filed, a user can open the blade with their thumb or forefinger (5:8-17). The blade can be opened by the user with one hand (5:15-17). Further, a person wearing gloves or with limited hand mobility can easily open the knife.

There is no release button of the type a switch blade uses, rather, the user himself moves the blade towards the open position, and once the spring passes the intermediate point, the spring will now act to force the blade open rather than hold the blade closed. Once in the fully extended position, shown in Figure 7, above, the spring 90 holds the blade B with sufficient force so that the blade B may be used without being locked (5:1-4). Additionally, a locking member D may be used to lock the blade B in an extended position (5:4-7).

The unique combination of features of the present invention is particularly advantageous in that it facilitates (i) retaining a blade of a knife in a retracted position, (ii) holding the blade in an extended position, and (iii) opening of a knife blade with one hand, all in a manner never before possible with legal knives of the prior art.

Of course, this summary has been provided as a general description of subject matter and does not limit or define the claims or their meaning. The scopes of the respective claims are to be construed by their own terms and not by this summary.

#### Correlation of Claims and Specification

Hereafter is a concise listing of the claims under appeal correlated with subject matter on which each element reads, from the specification. For brevity, correlated subject matter is provided in connection with the first instance of each element below with subsequent instances noted simply by reference characters. Text in the specification is referenced, in bold type, by column and line number, separated by a colon. For example, 4:12 refers to text beginning at column 4, line 12. This listing is provided as required under 37 CFR §

41.37(c)(1)(v) for the purpose of simplifying review of the claims and subject matter. It is not to be construed as limiting the claims to the specific subject matter referenced, nor to the embodiments disclosed in the specification.

23. A folding knife, comprising:

a handle (A, **3:13-18**, Figs. 1, 2 and 5A-5C) having a blade cavity (15, **3:19-26**, Fig. 4B) and a first end (16, **3:26-27**, Fig. 3; 34, **3:39-40**, Fig. 3);

a blade (B, **3:13-18**, Figs. 1, 2, 4A-4C and 5A-5C) having a first end (51, **3:61-62**, Fig. 3) and a second end (53, **3:61-62**, Fig. 3) opposite said first end (51), said first end (51) of said blade (B) having an aperture (hole receiving blade pivot 56, **3:64-65**, Fig. 3, 4A);

a blade pivot (56, **3:64-65**, Figs. 3, 4A) connected to said first end (16, 34) of said handle (A) and extending through the aperture (hole receiving blade pivot 56) for pivotal movement of said blade (B) about said blade pivot (56) between an extended position (Figs. 4C, 5C) wherein the blade (B) is outside of said blade cavity (15) and a retracted position (Figs. 4A, 5A) wherein the majority of the blade (B) is within said blade cavity (15); and

a plunger (E, **3:13-18**, **4:38-59**, Figs. 3 and 4A-4C) including a spring (90, **4:38-43**, Figs. 3 and 4A), the plunger (E) pivotally connected to the blade (B) at a first end (proximate end 87, Fig. 3), and pivotally coupled to the handle (A) at a second end (proximate pins 95, Fig. 3), the spring (90) being maximally deformed when the blade (B) is pivoted to an intermediate point between the extended position (Figs. 4C, 5C) and retracted position (Figs. 4A, 5A), thereby causing the spring (90) to assist opening of the blade (B) when the blade (B) is pivoted from the retracted position (Figs. 4A, 5A) toward the extended position (Figs. 4C, 5C) beyond the intermediate point.

24. A knife as defined in claim 23, wherein said blade (B) includes said first end (51) of said blade having an extension projecting outwardly (60, **4:3-19**, Fig. 3) from said handle (A) when said blade (B) is in said retracted position (Figs. 4A, 5A); said extension (60) defining an extreme edge portion (64, **4:3-19**, Fig. 3) with a plurality of ridges (66, **4:3-19**, Fig. 3) thereon for contact by a user when moving the blade (B) from said retracted position (Figs. 4A, 5A) to said extended position (Figs. 4C, 5C).

25. A knife as defined in claim 23, further comprising a safety member (D, **3:13-18, 4:20-37**, Figs. 2, 3, 4A-4C) connected to said handle (A) for movement between a locking position (**4:26-38**, Fig. 6) and an unlocking position (**4:26-38**, Fig. 7); said safety member (D) defining an engagement portion (76, **4:28-33**, Figs. 6-7) projecting into a path of movement of said plunger (E) when said safety member (D) is in said locking position (Fig. 6) for contacting and restraining movement of said plunger (E) when said blade (B) is in said extended position (Figs. 4C, 5C), to thereby lock said blade (B) in said extended position (Figs. 4C, 5C).

27. A knife as defined in claim 23, further comprising said handle (A) defining a first side and a second side opposite said first side and a belt clip (F, **3:13-18**, Figs. 1, 2 and 5A-5C) connected to said handle (A) adjacent one of said first and second sides of said handle (A).

28. A knife as defined in claim 23, wherein the first end of said plunger (E) includes a clevis (82, **4:38-59**, Figs. 3 and 4A) having a pin (86, **4:38-59**, Fig. 3) pivotally connected to said first end (51) of said blade (B).

29. A knife as defined in claim 23, wherein said first end (51) of said blade (B) includes an arcuate slot (58, **3:61-4:4**, Figs. 3 and 4A-4C) and wherein said handle (A) includes a pin (20, **3:61-4:4**, Figs. 3 and 4A-4C) carried in said arcuate slot (58), said arcuate slot (58) having a first end and a second end, and said first end of said arcuate slot (58) limiting said blade (B) from movement beyond said extended position (Figs. 4C, 5C).

34. A folding knife comprising:

a handle (A);

a blade (B) pivoted on said handle (A) for movement between stowed (Figs. 4A, 5A) and deployed conditions (Figs. 4C, 5C) relative to the handle (A); and

an elongate, force-transmitting biasing spring (90) having a variable length, the spring (90) operatively attached between said blade (B) and said handle (A), where said spring



(90) exhibits both an increase and a decrease in the length of the spring as said blade (B) is moved from the stowed condition (Figs. 4A, 5A) to the deployed condition (Figs. 4C, 5C).

36. The knife of claim 34 wherein the operative attachment of said spring (90) to said blade (B) comprises a plunger (E) operatively interconnecting the spring (90) to the blade (B).

37. A knife as defined in claim 36, further comprising a safety member (D) connected to said handle (A) for movement between a locking position (Fig. 6) and an unlocking position (Fig. 7); said safety member (D) defining an engagement portion (76) projecting into the path of movement of said plunger (E) for contacting said plunger (E).

45. A knife comprising:

a handle (A);

a blade (B) pivotally coupled to the handle (A) to be moveable about a blade pivot point (center point of 56, ~~3:64-66~~, Figs. 3, 4A), such that the blade (B) moves between a stowed position (Figs. 4A, 5A) and a deployed position (Figs. 4C, 5C);

a plunger (E) coupled between the handle (A) and the blade (B) such that a portion of the plunger (center point of holes 84, ~~4:38-50~~; Fig. 3) remains a fixed distance (~~4:52-57~~) from the blade pivot point (center point of 56); and

a spring (90) coupled to the plunger (E) to act on the blade (B) to urge the blade (B) into the stowed position (Figs. 4A, 5A) when the blade (B) is moved to the stowed position (Figs. 4A, 5A), and operates on the blade (B) to urge the blade (B) toward the deployed position (Figs. 4C, 5C) when the blade is moved by an outside force from the stowed position (Figs. 4A, 5A) at least partially toward the deployed position (Figs. 4C, 5C).

52. A folding knife comprising:

a handle (A);

a blade (B) having a tang coupled to the handle (A), the blade (B) configured to rotate, relative to the handle (A), between a retracted position (Figs. 4A, 5A) and an extended position (Figs. 4C, 5C);

biasing means (E, 90, **3:13-18, 4:38-59**, Figs. 3 and 4A-4C) for holding the blade in the retracted position (Figs. 4A, 5A) in the handle (A) while the blade (B) is in the retracted position (Figs. 4A, 5A) and for biasing the blade (B) toward the extended position (Figs. 4C, 5C) relative to the handle (A) when the blade (B) is moved from the retracted position (Figs. 4A, 5A) past a point of maximum bias toward the extended position (Figs. 4C, 5C); and

moving means (C, **4:14-19**, Figs. 1, 2, and 4A; 66, 66', **4:4-19**, Figs. 3 and 5A-5B; 63', **5:40-45**, Fig. 8B) for moving the blade (B) from the retracted position (Figs. 4A, 5A) to the extended position (Figs. 4C, 5C) with one hand while holding the knife (10) with the same one hand.

54. The folding knife of claim 52 wherein the moving means comprises at least one of a plurality of ridges (66) formed on the tang of the blade (B), a plurality of directional saw-like teeth (66') formed on the tang of the blade (B), or a pin (63') coupled to an upper portion of the blade (B).

58. A folding knife comprising:

a handle (A);

a blade (B) having a tang coupled to the handle (A), the blade (B) configured to rotate, relative to the handle, through an arc between a retracted position (Figs. 4A, 5A) and an extended position (Figs. 4C, 5C) when an opening force is applied to the blade (B);

a contact pin (63', **5:40-45**, Fig. 8B) coupled to the blade (B) and extending outward from the blade (B), positioned such that a user, holding the knife (10) in one hand, can apply an opening force to the blade (B) with a thumb or finger of the same hand;

a biasing element including a spring (90);

a first coupling element (92, **4:38-50**, Fig. 3) operatively coupling a first end of the biasing element (90) to the handle (A); and

a second coupling element (82, **4:38-59**, Fig. 3) operatively coupling a second end of the biasing element (90) to the blade (B).

59. The knife of claim 58 wherein the biasing element (90) is arranged such that the spring (90) thereof increases in tension to a point of maximum tension as the blade (B) is moved through the arc from the retracted position (Figs. 4A, 5A) toward the extended position (Figs. 4C, 5C), then decreases in tension as the blade (B) continues past the point of maximum tension toward the extended position (Figs. 4C, 5C).

60. The knife of claim 58 further including a plurality of ridges (66) positioned on the tang of the blade (B).

62. A folding knife comprising:

a handle (A);

a blade (B) having a tang coupled to the handle (A), the blade (B) configured to rotate, relative to the handle (A), through an arc between a retracted position (Figs. 4A, 5A) and an extended position (Figs. 4C, 5C) when an opening force is applied to the blade (B);

a contact pin (63') on the blade (B), positioned such that a user, holding the knife (10) in one hand, can apply an opening force to the blade (B) with a thumb or finger of the same hand;

a biasing element including a spring (90), configured to apply a closing force to the blade (B) while the blade (B) is in the retracted position (Figs. 4A, 5A);

a first coupling element (92) operatively coupling a first end of the biasing element (90) to the handle (A); and

a second coupling element (82) operatively coupling a second end of the biasing element (90) to the blade (B).

63. A folding knife comprising:

a handle (A);

a blade (B) having a tang coupled to the handle (A), the blade (B) configured to rotate, relative to the handle (A), through an arc between a retracted position (Figs. 4A, 5A) and an extended position (Figs. 4C, 5C) when an opening force is applied to the blade (B);

a contact pin (63') on the blade (B), extending perpendicular to a plane of travel of the blade (B) and positioned such that a user, holding the knife (10) in one hand, can apply an opening force to the blade (B) with a thumb or finger of the same hand;

a biasing element including a spring (90), configured to resist rotation of the blade (B) toward the extended position (Figs. 4C, 5C) while the blade is in the retracted position (Figs. 4A, 5A);

a first coupling element (92) operatively coupling a first end of the biasing element (90) to the handle (A); and

a second coupling element (82) operatively coupling a second end of the biasing element (90) to the blade (B).

65. A folding knife, comprising:

a handle (A) having a blade cavity (15) and a first end (16, 34);

a blade (B) having a first end (51) and a second end (53) opposite said first end; said first end (51) of said blade having an aperture (hole receiving blade pivot 56);

a blade pivot (56) connected to said first end (16, 34) of said handle (A) and extending through the aperture (hole receiving blade pivot 56) for pivotal movement of said blade (B) about said blade pivot (56) between an extended position (Figs. 4C, 5C) wherein the blade (B) is outside of said blade cavity (15) and a retracted position (Figs. 4A, 5A) wherein the majority of the blade (B) is within said blade cavity (15);

a plunger (E) including a spring (90), the plunger (E) pivotally connected to the blade (B) at a first end, and operatively coupled to the handle (A) at a second end, the spring (90) being maximally deformed when the blade (B) is pivoted to an intermediate point between the extended position (Figs. 4C, 5C) and retracted position (Figs. 4A, 5A), thereby causing the spring (90) to assist opening of the blade (B) when the blade (B) is pivoted from the retracted position (Figs. 4A, 5A) toward the extended position (Figs. 4C, 5C) beyond the intermediate point; and

a safety member (D) connected to said handle (A) for movement between a locking position (Fig. 6) and an unlocking position (Fig. 7); said safety member (D) defining an engagement portion (76) projecting into a path of movement of said plunger (E) when said safety member (D) is in said locking position (Fig. 6) for contacting and restraining movement of said plunger (E) when said blade (B) is in said extended position (Figs. 4C, 5C), to thereby lock said blade (B) in said extended position (Figs. 4C, 5C).

66. A folding knife comprising:

a handle (A);

a blade (B) having a tang coupled to the handle (A), the blade (B) configured to rotate, relative to the handle (A), through an arc between a retracted position (Figs. 4A, 5A) and an extended position (Figs. 4C, 5C) when an opening force is applied to the blade (B);

a contact pin (63') on the blade (B), extending perpendicular to a plane of travel of the blade (B) and positioned such that a user, holding the knife (10) in one hand, can apply opening force to the blade (B) with a finger of the same hand;

a biasing element including a spring (90), configured to resist rotation of the blade (B) toward the extended position (Figs. 4C, 5C) while the blade (B) is in the retracted position (Figs. 4A, 5A);

a first coupling element (92) operatively coupling a first end of the biasing element to the handle (A);

a second coupling element (82) operatively coupling a second end of the biasing element to the blade; and

a locking member (D) positioned in the handle and having a first position in which the blade may be freely moved between the retracted (Figs. 4A, 5A) and extended positions (Figs. 4C, 5C) and a second position in which the blade is locked in the extended position (Figs. 4C, 5C).

## VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. The rejection of claims 23-25, 27-29, and 65 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

2. The rejection of claims 58-60, 62, 63 and 66 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

3. The rejection of claims 58-60, 62, 63 and 66 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The rejection of claim 34 over U.S. Patent No. 1,864,011 to Brown.

5. The rejection of claim 36 over U.S. Patent No. 1,864,011 to Brown.

6. The rejection of claim 45 over U.S. Patent No. 1,864,011 to Brown.

7. The rejection of claim 52 over U.S. Patent No. 1,864,011 to Brown.

8. The rejection of claim 54 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,131,149 to Thompson.

9. The rejection of claim 58 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,009,008 to Yablonovitch or U.S. Patent No. 5,095,624 to Ennis.

10. The rejection of claim 59 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,009,008 to Yablonovitch or U.S. Patent No. 5,095,624 to Ennis.

11. The rejection of claim 60 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,131,149 to Thompson.

12. The rejection of claim 62 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,009,008 to Yablonovitch or U.S. Patent No. 5,095,624 to Ennis.

13. The rejection of claim 63 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,009,008 to Yablonovitch or U.S. Patent No. 5,095,624 to Ennis.

14. The rejection of claim 66 over U.S. Patent No. 1,864,011 to Brown in view of U.S. Patent No. 5,009,008 to Yablonovitch or U.S. Patent No. 5,095,624 to Ennis and, if necessary, further in view of U.S. Patent No. 5,293,690 to Cassady or U.S. Patent No. 4,985,998 to Howard.

15. The rejection of claims 23-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60, 62, 63, 65 and 66 under 35 U.S.C. § 251 as being an improper recapture of surrendered subject matter.

## VII. ARGUMENT

In the arguments that follow, when a specific passage of a U.S. patent is cited, it will be indicated by a column number separated from a line number by a colon.

### A. Rejection of Claims 23-25, 27-29 and 65 Under 35 U.S.C. § 112, First Paragraph

In rejecting claims 23-25, 27-29 and 65, the Examiner states that “the original disclosure does not provide support for the combination now set forth in claims 23 and 65 of: ‘said blade having an aperture, and a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot ....’ Rather support is provided for the blade having *a pivot pin 56 that is connected to the first end of the handle for pivotal movement of said blade about said blade pivot* between an extended position and a retracted position.” Final Office Action, page 3 (emphasis added) (attached hereto as Appendix B).

From this statement, it appears the Examiner agrees there is adequate support for “a blade pivot connected to said first end of said handle ... for pivotal movement of said blade about said blade pivot” as recited in claims 23 and 65 (see also allowed claims 1, 11, 12 and 15), and thus takes issue only with the recitation of the blade “having an aperture.” The blade B actually has three apertures. A first aperture 58 in the form of a slot, a second aperture 62 that receives pin 86 and a third aperture through which pin 56 extends, but this aperture cannot easily be seen in Figure 3 of the application (reproduced as Figure 8, below) because the pin 56 is in the aperture. While the text of the disclosure does not explicitly recite the pin 56 is in an “aperture,” this is such a well known way to construct a knife that a person of skill in the art would not even need this to be disclosed: they would know it from looking at the figures and knowing basic knife operation and construction. This is also clear from the Figures. A review of Figure 8 below would indicate to one of skill in the art the only practical way for pin 56 to be extending from the center of the tang is for it to be through an aperture in the blade. In addition, the shading and interface angle between the blade B and the pin 56 also give an indication that it is a separate pin extending through an aperture and the blade was not molded or machined with this pin as an integral part of the blade. (While from a technology stand point, if a person had a 3D milling machine, it would be possible to make a blade with a protruding part, this is not how Figure 8 is shown. Indeed, the trouble and expense to make such a blade would be prohibitive.)

Figures 4A-4C of the application (Figures 2-4, above), which have cross hatching on the pin, but not on the blade, also give an indication that the pin 56 is a separate piece that extends through an aperture. Again, every person in this art has the knowledge that a hole is provided in a blade to receive the pivot pin 56 since this has been basic knife construction for many years and a patent does not need to be a blueprint of every engineering detail that is known to those in the art. It would be clear to one of ordinary skill in the art from a review of the disclosure and the figures, particularly Figure 3 of the application (reproduced below as Figure 8), that in order for pivot pin 56 to traverse the blade B and engage holes 22, 48 in the handle portions 12, 14, it would be necessary to provide an aperture in said blade B. Thus, it would be clear to one of ordinary skill in the art, at the time of filing the original application, that Applicant had possession of the claimed invention.

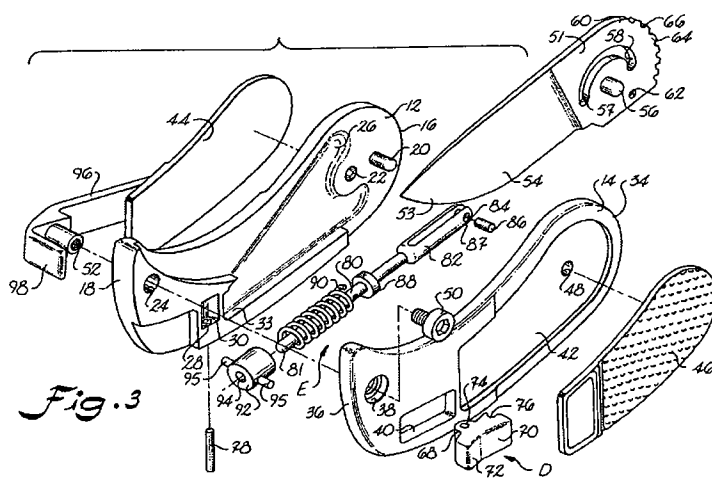


Figure 8  
(Figure 3 of application)

B. Rejection of Claims 58-60, 62, 63 and 66 Under 35 U.S.C. § 112, Second Paragraph

In rejecting claims 58-60, 62, 63 and 66, the Examiner states that the “disclosure does not provide support for the ends of the biasing element (now interpreted by Appellant to be the spring 90) being coupled to the handle and blade respectively. That is, there is no single integral feature or plural integral features that couple(s) the end of the spring to the handle, or the end of the spring to the blade. Rather, both ends of the spring 90 are free and not coupled to anything. Further, the element that is coupled to the handle is pin 95 or the integral combination of pin 95 and sleeve or collar 92, wherein the sleeve or collar 92 is coupled to shaft 80, not to



spring 90; similarly, the element that is coupled to the blade is pin 86 or the integral combination of pin 86 and yoke or clevis 82, wherein the yoke or clevis is coupled to shaft 80, not to spring 90.” Final Office Action, pages 2 to 3.

In taking such a position, the Examiner takes a narrow view of “coupling,” interpreting such language to include only direct connection of integral elements. The term “coupling,” however, when given a reasonable interpretation in accordance with its plain meaning, includes the indirect connection of elements that may or may not be integral. Furthermore, in the context of the claims at issue, the recitation of a first coupling element and a second coupling element makes it clear that “coupling” does not refer solely to direct connection, but rather contemplates indirect connection through intermediate coupling elements.

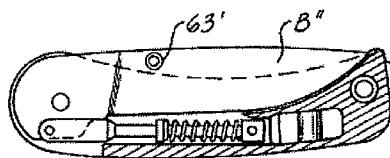
The Examiner’s statement that “the ends of the spring 90 are free and not coupled to anything” is inaccurate. If true, the spring 90 would fall from the knife during operation and thus be unable to fulfill the objectives set forth in the application, such as providing spring-biased means for retaining a blade of a folding knife in a closed position (**1:65-67**). Rather, it is clear that the biasing element or spring 90 shown in the illustrated embodiment of Figures 2-4, above, is coupled to the blade B and handle to provide the necessary bias to hold the blade B in the retracted position, when the blade B is in the retracted position, and to assist in maintaining the blade B in the extended position, when the blade B is in the extended position.

A person having ordinary skill in the art would understand “coupling” to encompass both indirect and direct coupling unless clearly limited otherwise. Inclusion of “a first coupling element” and “a second coupling element” makes it clear that the biasing element of claims 58-60, 62, 63 and 66 is indirectly coupled to the blade and the handle via intermediate elements, such as, for example, yoke or clevis 82 and/or sleeve or collar 92 (see Figure 8, above). Still further, the addition of the modifier “operatively” makes it clear that coupling embraces the interaction of adjacent elements such that force or power is transmitted therebetween – one definition of “operative” being “exerting force, power, or influence.” A review of the figures, in particular Figure 2, above, makes it clear that the bias element or spring 90 is coupled between the handle and blade to exert a force therebetween. Thus, it would be clear to one of ordinary skill in the art, at the time of filing the original application, that Applicant had possession of the claimed invention.

C. Rejection of Claims 58-60, 62, 63 and 66 Under 35 U.S.C. § 112, Second Paragraph

In rejecting claims 58-60, 62, 63 and 66, the Examiner states that the recitation “a contact pin” is vague and indefinite as to what disclosed structure is being referred. The Examiner further states that “the only disclosed ‘pin’ that appears to be coupled to the blade is either pin 20 or pin 56.” Final Office Action, page 4.

The Examiner has overlooked pin 63' of Figure 8B (reproduced below as Figure 9) and corresponding disclosure at column 5, lines 40-45, which clearly disclose a pin 63' coupled to the blade B'' such that a user can engage or contact the pin with his or her thumb or finger to open the blade B''. The terms of art often used for such a pin 63' include thumb bob, thumb stud, and thumb pin. Such a thumb pin is known in the art as shown in Figure 8B of the application as filed (Figure 9, below). In light of such disclosure, claims 58-60, 62, 63 and 66 are not indefinite and therefore the rejection under 35 U.S.C. § 112, second paragraph should be withdrawn.



*Fig. 8B*

Figure 9  
(Figure 8B of application)

D. Introduction to Claim Rejections Over Cited Art

Each of the appealed reissue claims that presently stand rejected over the art of record, have been rejected with primary reliance on U.S. Patent No. 1,864,011 to Brown (hereinafter “Brown”). However, as explained in more detail below, each such reissue claim is patentably distinct from the disclosure and teachings of Brown – Brown being drawn to a folding knife having extendable side plates that requires two hands to operate as summarized below with reference to Figures 10-12 (Figures 1-3 of Brown, respectively).

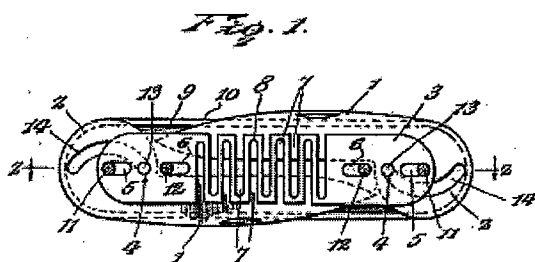


Figure 10  
(Figure 1 of Brown)

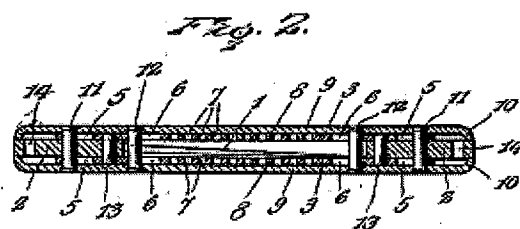


Figure 11  
(Figure 2 of Brown)

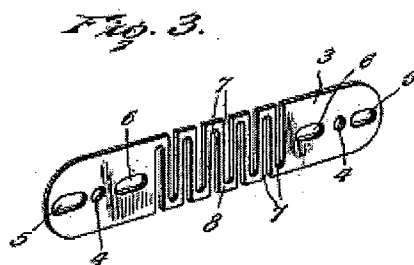


Figure 12  
(Figure 3 of Brown)

As shown in the figures above, the pictured knife includes a conventional nail mark on each of two blades 1 that are pivotally coupled to a handle structure by pins 11, such nail marks being well known in the art for allowing a user to hold a knife with one hand while engaging the nail mark with a finger or thumb of the other hand to withdraw the knife blade. Once a user begins to open either blade 1 via the nail mark, side plates 3 extend from an initial state via cam action of pins 13 with slots 14 formed in the tang of each blade 1. In this manner, the plates 3 act in a longitudinal direction throughout the duration of blade deployment, relying on the structure of slots 14 to provide a cam action transferring the compressive force developed in the plates 3 to resist closing or opening of the blade 1 (see Brown, page 2, lines 13-51).

Brown does not disclose or teach the various unique features of the present invention that allow for one-handed opening of a knife blade from a retracted position. The shortcomings of Brown with respect to various embodiments, as set forth in the pending reissue claims, are discussed in more detail throughout the following discussion.

E. Rejection of Claim 34 Over U.S. Patent No. 1,864,011 to Brown

In the Final Office Action, the Examiner rejected independent claim 34 under 35 U.S.C. § 103(a) as being unpatentable over Brown. The Examiner acknowledges that “Brown lacks the spring operating in the claimed direction; that is, a spring that exhibits the decrease in effective length as the blade is moved from one of the stowed and deployed conditions toward an intermediate point, and an increase in effective length as the blade is moved from the intermediate point toward the other conditions,” but then submits that it would be obvious to one having ordinary skill in the art to simply change the type of spring that operates in tension to a spring that operates in compression, stating that tension springs and compression springs are well known equivalents. Appellant disagrees.

Tension and compression springs operate in fundamentally opposite directions and therefore embody different principles of operation and further require distinct mounting arrangements when utilized in a functional device. Extension springs are primarily used to hold components together, while compression springs generally hold components apart. Extension springs are generally formed of coils that are initially held close together and then stretch apart as the extension spring undergoes tensile loading. In stretching, potential energy is transferred to the extension spring such that when released the extension spring returns to its initial compressed state. Conversely, compression springs have an initial extended state and in operation undergo compressive loading such that potential energy is transferred to the spring when compressed, as opposed to when extended.

As embodied in claim 34, the “elongate, force-transmitting biasing spring” acts as a compression spring which first undergoes a decrease in effective length as the blade moves from the stowed condition to an intermediate condition, and then undergoes an increase in effective length as the blade continues to the deployed condition. As such, the spring provides a variable force throughout its range of motion which pushes the blade toward the stowed condition and deployed condition, respectively, depending on the position of the blade with respect to the intermediate condition. In contrast, the plate 3 of Brown acts as an extension spring which pulls the blade via cam action to a closed or open position. Thus, the structure of Brown (*e.g.*, plate 3 having spring portion 8) is fundamentally distinct from the claimed structure of the present invention and operates in a directly opposite manner. This is confirmed when

hypothetically attempting to replace plate 3 with a compression spring, which is not feasible using the cam action mechanism disclosed in Brown. For this reason, it would not be obvious to modify the extension spring element of Brown (*e.g.*, plate 3 having spring portion 8) with a compression spring as asserted by the Examiner. Extension springs and compression springs are not well-known equivalents. For this reason claim 34 is patentable over Brown.

F. Rejection of Claim 36 Over Brown

Claim 36 is allowable at least for being dependent from allowable independent claim 34 as discussed above.

G. Status of Claim 37

The Examiner has neither rejected claim 37 over the art of record, nor indicated whether claim 37 reads over the same. Nevertheless, Appellant notes that claim 37 is allowable at least for being dependent from allowable independent claim 34 as discussed above. Additionally, claim 37 includes a “safety member” limitation that further distinguishes it over the art of record and is therefore patentable over the same.

H. Rejection of Claim 45 Over Brown

In the Final Office Action, the Examiner rejected claim 45 under 35 U.S.C. § 102(b) as being anticipated by Brown, stating that Brown discloses a folding knife with every structural limitation of the claimed invention. The Examiner points to the left portion of plate 3, or the right portion of plate 3 as the “plunger” of claim 45 and the intermediate portion or spring portion 8 of plate 3 as the “spring coupled to the plunger.” In other words, the Examiner bifurcates unitary plate 3 to reach the conclusion that Brown discloses the structural limitation of “a spring coupled to the plunger.” Such a construction impermissibly stretches the definition of “coupled” and ignores the clear recitation of separate and distinct elements. From the plain language of claim 45, it is clear that claim 45 embodies a concept in which the spring is a component that is physically separate from the plunger rather than of a unitary construction as required in Figures 1 and 3 of Brown (see Figures 10 and 12, above). For this reason alone, claim 45 is patentable over Brown.

Additionally, even when taking the Examiner’s definition of plunger as “the left portion of 3, or the right portion of plate 3” (emphasis added) – a construction Appellant

disagrees with – it is clear that Brown fails to disclose the structural limitation of “a plunger coupled between the handle and the blade such that a portion of the plunger remains a fixed distance from the blade pivot point.” For example, with reference to Figure 10 (Figure 1 of Brown), if the plunger is the left portion of 3, then it is arguably coupled between the handle (*e.g.*, structure including 9, 10) and the left or lower blade 1 by left pins 11, 13. However, in operation, the left portion of 3 does not remain a fixed distance from the blade pivot point (*e.g.*, pin 11), but instead, translates back and forth along left slot 5. Likewise, if the right portion of 3 is designated as the plunger, it is arguably coupled to the right or upper blade 1 by right pins 11, 13, and in operation translates back and forth along right slot 5 and thus does not remain “a fixed distance from the blade pivot point” as required by claim 45. Thus, for this additional reason, claim 45 is patentable over Brown.

#### I. Rejection of Claim 52 Over Brown

In the Final Office Action, the Examiner rejected claim 52 under 35 U.S.C. § 102(b) as being anticipated by Brown, stating that Brown discloses a folding knife with every structural limitation of the claimed invention. The Examiner points to spring portion 8 of plate 3 as the “biasing means” and points to the conventional nail mark of Brown (*e.g.*, the notch located on the blade between numerals 1 and 7) as the “moving means for moving the blade from the retracted position to the extended position with one hand while holding the knife with the same one hand,” stating that the “notch can clearly be accessed by a finger of a user’s hand and pushed toward an open/extended position while the user is holding the knife in the same hand.” Final Office Action, page 6. Appellant strongly disagrees.

With respect to “moving means,” the Examiner’s construction of Brown contradicts the conventional use of nail marks to open knife blades, is incompatible with the structure disclosed in Figure 1 of Brown, and is inconsistent with the anatomy of the human hand. The use of a conventional nail mark with folding knives is well known in the art and provides means for opening a knife blade with a hand opposite the hand holding the knife. In operation, a right handed user holds a conventional pocket knife in his or her right hand with the handle facing towards the user’s palm. Then the user pinches the knife blade with his or her left thumb and left forefinger while inserting a nail of his or her left forefinger or thumb in the nail

mark. Using the nail mark and pressure from pinching the blade, the user is able to open the blade against whatever resistance may be holding the blade closed.

This method is confirmed when viewing the nail mark of Brown which shows the nail mark having a curvature to match a user's nail such that the nail must be inverted to engage the notch – a feat only possible when using a nail of a hand opposite the hand that holds the knife. Additionally, as shown in Figure 10 (Figure 1 of Brown), the notch is in such close proximity to the handle (see hidden line of flange 10 which nearly touches the nail mark) that a user would not be able to engage the nail mark (even if inverted to receive a nail) with a hand that is holding the knife because the handle (*e.g.*, structure including flange 10) would interfere with the user's finger or thumb and prevent engagement. If a person is using the thumb nail of the opposite hand, there is no clearance needed since the nail itself is the outside most part of the thumb and can easily contact the nail mark; but from the other side, using the hand holding the knife, the thumb gets in the way and prevents the nail from reaching the nail mark of Brown since his knife does not provide clearance for such a position. Still further, the proffered construction of Brown ignores the anatomy of the human hand. As shown in Figure 10 (Figure 1 of Brown), to engage the nail mark it is necessary to insert a nail parallel to the handle of the blade. When grasping the knife in a user's hand it is impossible to position a nail of a finger or a thumb of the same hand in such a position to effectively open the blade.

Of perhaps the most importance is that nowhere does Brown suggest or assert that a user can open his knife with one hand. The idea that this is possible is merely hindsight reconstruction by the Examiner from reading Applicant's own disclosure. Since the text and teachings of Brown do not state or show that his knife can be opened with one hand, this feature cannot be relied upon as being taught by Brown as a basis for the rejection. The Examiner attempts to create this rejection by extrapolating from what Brown clearly teaches and to do so, relies only on what the Applicant himself taught. Surely, if Brown had invented a knife that could be opened with one hand, he would have said something about this in his disclosure; he clearly did not. His knife cannot be opened with one hand and requires two hands.

Further, the knife of Brown requires that the blade extend beyond a perpendicular position before plate 3 can assist in opening the blade. Thus, even if the disclosed nail mark were inverted, moved further from the handle to provide clearance for a user's nail, and the user

was able to defy nature to position a thumb or finger to initially engage the nail mark, the user would not have the range of motion (let alone the strength) necessary to reach the perpendicular blade position to open the blade. Thus, contrary to the Examiner's assertion, it is clear that the nail mark of Brown cannot be accessed by a finger or thumb of a user's hand and pushed toward an open/extended position while the user is holding the knife in the same hand. For this reason, claim 52 is patentable over Brown.

Furthermore, claim 52 is patentable over Brown because the biasing is claimed in means-plus-function format (*i.e.*, "biasing means for holding the blade ..."). Based on *In re Donaldson*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994), this claim covers the embodiments disclosed in the specification and equivalents thereof. The structure of Brown is markedly different from the structure of the biasing means as disclosed in the application as filed and can not be considered an equivalent structure. As shown in Figure 10 (Figure 1 of Brown), Brown uses a solid flat plate 3 having a rectangular spring portion 8 that serves as an extension spring for biasing the blades 1 via cam action of arcuate slots 14 interacting with pins 13. The plate 3 of Brown functions as an extension spring and thus undergoes tensile axial loading during operation of the knife, such loading acting at all times in a direction in line with the pivot points of the knife blades 1 (*i.e.*, axis of pins 11). The plate 3 therefore pulls on pins 13 which ride within slots 14 setting up a cam action which pulls the blade(s) 1 shut when the blade(s) 1 are in a position less than perpendicular to the handle and pulls the blade(s) open when in a position greater than perpendicular to the handle (*i.e.*, plate 3 undergoes tensile loading and pulls the blade(s) shut and open, respectively). This is markedly different from the biasing means of the present invention, which includes a coil spring positioned around a plunger, the coil spring undergoing variable compressive loading, and in operation pushing the blade shut when the blade is in a position less than an intermediate position and pushing the blade open when the blade is in a position greater than an intermediate position (*i.e.*, spring 90 undergoes compressive loading and pushes the blade shut and open, respectively). Thus, the structure of Brown does not perform substantially the same function of the biasing means of the present invention in substantially the same manner and therefore cannot be considered an equivalent thereof. Claim 52 should therefore additionally be allowed on the basis of *In re Donaldson* and the means-plus-function formatting of the claim element.



J. Rejection of Claim 54 Over Brown in View of U.S. Patent No. 5,131,149 to Thompson

Claim 54 is allowable at least for being dependent from allowable independent claim 52 as discussed above.

K. Rejection of Claim 58 Over Brown in View of U.S. Patent No. 5,009,008 to Yablonovitch or U.S. Patent No. 5,095,624 to Ennis

In the Final Office Action, the Examiner rejected claim 58 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of U.S. Patent No. 5,009,008 to Yablonovitch (hereinafter “Yablonovitch”) or U.S. Patent No. 5,095,624 to Ennis (hereinafter “Ennis”), stating that Brown discloses almost every structural limitation of the claimed invention and that Yablonovitch or Ennis disclose the element that Brown lacks – a contact pin. Final Office Action, pages 6-8. In making this rejection the Examiner points to the center portion of plate 3 (*i.e.*, spring portion 8) as “the biasing element including a spring,” the leftmost portion of plate 3 as the “the first coupling element,” and the rightmost portion of plate 3 as the “the second coupling element.” In other words, the Examiner dissects unitary plate 3 into three regions to reach the conclusion that Brown discloses the structural limitations of “a first coupling element operatively coupling a first end of the biasing element to the handle; and a second coupling element operatively coupling a second end of the biasing element to the blade.” Such a construction ignores the clear recitation of separate and distinct elements. From the plain language of claim 58, it is clear that claim 58 embodies a concept in which the biasing element including a spring is a component that is physically separate from the first coupling element and physically separate from the second coupling element rather than of a unitary construction. For this reason alone, claim 58 is patentable over Brown in view of Yablonovitch or Ennis.

Furthermore, even if Yablonovitch or Ennis generally disclose the use of a contact pin to facilitate one-handed opening of a knife blade, the structure disclosed in Yablonovitch and in Ennis is not compatible with the knife of Brown, and thus one skilled in the art would not look to Yablonovitch or Ennis to modify the knife of Brown as indicated. As shown in Figure 10 (Figure 1 of Brown), a compact knife is shown having two foldable blades 1 that extend from a common handle (*e.g.*, structure 9 and 10). In the retracted positions, the blades 1 are received nearly entirely within the knife handle such that there is no room to couple the finger actuator of Yablonovitch or a similar structure of Ennis to either blade. Nor would it be obvious to modify

the knife of Brown to provide such a mounting location. As shown, the knife blades 1 of Brown remain substantially within the handle so that a user may operate the knife with one blade extended and the other retracted. If the finger actuator of Yablonovitch, for example, were added to either blade of Brown, it would interfere with grasping the knife and cause injury to a user's hand during operation. Thus, even if Brown disclosed all other structural limitations of claim 58 (which it does not), it would not be obvious to modify the knife of Brown to add the finger actuator of Yablonovitch (or a similar structure of Ennis). For this additional reason, claim 58 is patentable over Brown in view of Yablonovitch or Ennis.

A further shortcoming is that none of the prior art references cited by the Examiner in the rejection of this claim permits a user to hold the knife in one hand and apply an opening force of the blade using a thumb or finger of the same hand. This is a main point of this invention; this feature is entirely missing from the prior art. The Examiner did not address this point in his rejection: he cannot; it is missing from the teachings of the prior art used. (The Thompson patent, 5,131,149, does propose to teach a knife that can be opened by one hand, but its teachings and construction are so different from the present invention and the cited prior art knives that the Examiner did not use that art in the rejection of claim 58, 60 or 62. This is because the Examiner himself recognized that such a combination was inappropriate.)

The Examiner has ignored the limitation of claim 58 that "a user holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand." This is inappropriate since this is a structural limitation of the contact pin that is a recited element of this claim. This feature of the contact pin that is positioned such that a user can open the knife with one hand should be given appropriate weight and dealt with by the Examiner with a prior art showing if one can be made; one cannot be made. There is no knife of the prior art with this claimed combination of a thumb pin (called a contact pin in the claims) with the biasing element and coupling elements that would permit a knife to be opened with one hand. As previously pointed out, even if a contact pin were provided in Brown, and even if a place could be found to put this pin, it could not be in a position that would permit a user to open the blade with one hand. The blade of Brown needs to go past the halfway point before the spring will start to open the knife. By this time, any contact pin on the blade will be well out of reach of the thumb of a user and they would no longer be able to use their thumb to push the blade while still

holding the knife. Such a thumb pin, even if put on Brown, could not be positioned relative to his spring and blade such that a user could open the knife with one hand.

As previously pointed out, the Examiner did not assert that this claimed feature was even present in the rejection made; for this reason alone, in addition to the reasons already provided, claim 58 should be allowed.

L. Rejection of Claim 59 Over Brown in View of Yablonovitch or Ennis

Claim 59 is allowable at least for being dependent from allowable independent claim 58 as discussed above. In addition, claim 59 recites the additional limitation “wherein the biasing element is arranged such that the spring thereof increases in tension to a point of maximum tension as the blade is moved through the arc from the retracted position toward the extended position, then decreases in tension as the blade continues past the point of maximum tension toward the extended position.” Neither Brown nor Yablonovitch or Ennis disclose such a feature.

The Examiner points to the spring portion 8 of plate 3 as the biasing element that meets this additional limitation of claim 59. Final Office Action, page 7. The Examiner, however, overlooks the fact that the spring portion of plate 3 acts as an extension spring and thus undergoes tensile loading such that the spring portion 8 of plate 3 increases in compression (as opposed to tension) as it is stretched. This action is directly opposite the action of the biasing element as recited in claim 59. In other words, the arrangement of the spring portion 8 of plate 3 is such that the spring portion 8 is never compressed and therefore does not experience the increase and subsequent decrease in tension as claimed. For this additional reason, claim 59 is patentable over Brown in view of Yablonovitch or Ennis.

M. Rejection of Claim 60 Over Brown in View of Thompson

Claim 60 is allowable at least for being dependent from allowable independent claim 58 as discussed above.

N. Rejection of Claim 62 Over Brown in View of Yablonovitch or Ennis

In the Final Office Action, the Examiner rejected claim 62 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Yablonovitch or Ennis. Claim 62, however, contains a particular element which is neither found in nor obvious from Brown or a combination

of Brown and Yablonovitch or Ennis. Claim 62 specifies that the biasing element, including the spring, applies “a closing force to the blade while the blade is in the retracted position.” This feature, of the spring providing a closing force while the blade is in the retracted position, is not disclosed or taught by Brown or a combination of Brown and Yablonovitch or Ennis.

Rather, as shown in Figure 10 (Figure 1 of Brown), when in the closed position, the plate 3 (having spring portion 8) is restrained axially by pins 11 and 12 in engagement with end portions of slots 5 and 6. In this configuration, the blade 1 does not experience any spring force from plate 3, such force, if any, being held by pins 11 and 12. It is not until a user partially opens the blade 1 and causes the arcuate slot 14 on the blade 1 to engage and pull pin 13 toward the pivot point (*i.e.*, pin 11) that a resistive force is set up between the blade 1 and the plate 3. When releasing the blade 1 from this partially open state, plate 3 retracts pulling pin 13 against the arcuate slot 14, and thereby pulls the blade 1 toward the retracted position until the plate 3 comes to rest via contact of slots 5 and 6 with pins 11 and 12. Again, once in the retracted state, any spring force that may be present in plate 3 is held by pins 11 and 12 and is not applied to the blade 1. Having a pressing force when closed is a unique feature which was provided in the present invention and is a specific benefit which was repeatedly explained in the application as filed. See, for example, the patent as issued, column 1, last few lines, and other places in the specification which state that the spring provides a closing force on the blade when it is in the fully retracted position. This feature of claim 62 is therefore not in the cited art and should be allowed.

O. Rejection of Claim 63 Over Brown in View of Yablonovitch or Ennis

In the Final Office Action, the Examiner rejected claim 63 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Yablonovitch or Ennis, stating that Brown discloses almost every structural limitation of the claimed invention and that Yablonovitch or Ennis disclose the element that Brown lacks – a contact pin. Final Office Action pages 6-8.

As discussed above with respect to claim 58, Brown fails to disclose, teach or otherwise suggest a knife in which the “biasing element including a spring” is a component that is physically separate from the first coupling element and physically separate from the second coupling element. For this reason alone, claim 63 is patentable over Brown in view of

Yablonovitch or Ennis. Additionally, also as discussed above with respect to claim 58, modifying the knife of Brown to add the finger actuator of Yablonovitch (or a similar structure of Ennis) would render the knife of Brown impractical for its intended purpose by interfering with a user's ability to comfortably grasp and operate the knife. For this additional reason, claim 63 is patentable over Brown in view of Yablonovitch or Ennis.

P. Rejection of Claim 66 Over Brown in View of Yablonovitch or Ennis and, if Necessary, Further in View of U.S. Patent No. 5,293,690 to Cassady or U.S. Patent No. 4,985,998 to Howard.

Despite the indication on page 13 of the Final Office Action that claim 66 reads over the prior art of record, the Examiner has nevertheless rejected claim 66 as being unpatentable over Brown in view of Yablonovitch or Ennis and, if necessary, further in view of U.S. Patent No. 5,293,690 to Cassady (hereinafter "Cassady") or U.S. Patent No. 4,985,998 to Howard (hereinafter "Howard").

As noted by the Examiner, claim 66 is substantially similar to claim 63 with the addition of a locking member as claimed at the end of claim 66. Thus, claim 66 is allowable over the cited art for the reasons set forth above with respect to claim 63 (and thus by reference to claim 58). Additionally, claim 66 is allowable over the cited art because the Examiner has failed to suggest or provide any indication of how the locking mechanisms of Ennis, Cassady or Howard could be incorporated with the knife of Brown to render claim 66 obvious.

A review of the locking mechanisms of Ennis, Cassady and Howard show that each is incompatible with the knife design of Brown. For example, Ennis discloses the use of a T-shaped toggle 44 pivotally mounted to the back of the knife and extending along a length thereof such that it would interfere with operation of the blades 1 of Brown as well as the translation of plate 3 (see, *e.g.*, Figure 5 of Ennis, reproduced below as Figure 13). Likewise, Howard discloses the use of a locking bar 14 that is also pivotally mounted to the back of the knife at 24 and extending along a length thereof such that it would interfere with operation of the blades 1 of Brown as well as the translation of plate 3 (see, *e.g.*, Figure 1 of Howard, reproduced below as Figure 14). Additionally, the release lever 16 of Howard would similarly interfere with the translation and hence operation of plate 3 of Brown. The locking mechanism of Cassady requires a crossbolt slot 32 concentric with a pivot point of the knife blade 50 in the handle plates

30, 40 for receiving a crossbolt 1 (see Figures 2, 5 and 7 of Cassady, reproduced below as Figures 15-17, respectively). In operation, the crossbolt 1 swings through the entire range of the crossbolt slot 32, and thus if incorporated in the knife of Brown, would sweep through plate 3 rendering the device inoperable. In sum, none of the locking mechanisms are compatible with the knife disclosed in Brown and therefore cannot be combined therewith. Thus, claim 66 cannot be an obvious combination of Brown in view of Yablonovitch or Ennis and, if necessary, further in view of Cassady or Howard.

*Locking Mechanism of Ennis:*

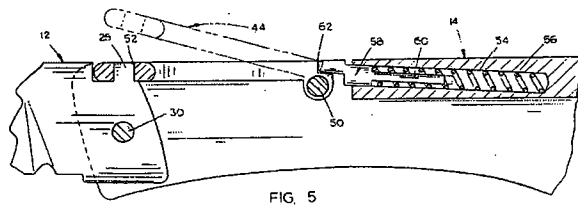


Figure 13  
(Fig. 5 of Ennis)

*Locking Mechanism of Howard:*

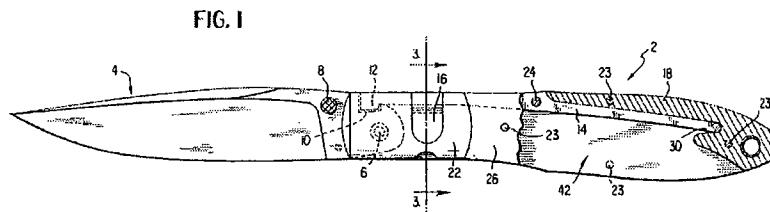


Figure 14  
(Fig. 1 of Howard)

*Locking Mechanism of Cassady:*

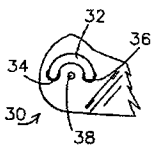


Fig. 2

Figure 15  
(Fig. 2 of Cassady)

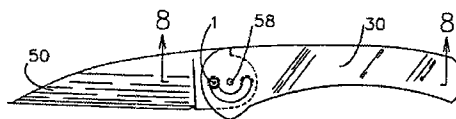


Fig. 5

Figure 16  
(Fig. 5 of Cassady)

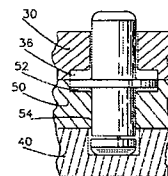


Fig. 7

Figure 17  
(Fig. 7 of Cassady)

Q. Rejection of Claims 23-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60, 62, 63, 65 and 66 Under 35 U.S.C. § 251

Analytic Framework of Rule Against Recapture

As outlined in the seminal case of *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997), and as adopted and applied in the precedential opinion of *Ex Parte Eggert*, 67 USPQ2d 1716, 1730-32 (Bd. Pat. App. & Inter. 2003), application of the rule against recapture comprises a multiple step process as set forth below.

**Step 1:** The first step in applying the recapture rule is to determine whether and in what “aspect” the reissue claims are broader than the issued patent claims. *Clement*, 131 F.3d at 1468.

**Step 2:** The second step is to determine whether the broader aspects of the reissue claims relate to surrendered subject matter, looking to the prosecution history for arguments and changes made in an effort to overcome a prior art rejection. *Id.* at 1468-69.

**Step 3:** The third step is to determine whether any surrendered subject matter has crept into the reissue claim. *Id.* at 1469. In accordance with step 3, the following principles apply:

- (1) if the reissue claim is as broad as or broader than the canceled or amended claim in all aspects, the recapture rule bars the claim;
- (2) if [the reissue claim] is narrower [than the canceled or amended claim] in all aspects, the recapture rule does not apply, but other rejections are possible; and
- (3) if the reissue claim is broader [than the canceled or amended claim] in some aspects, but narrower in others, then:
  - (a) if the reissue claim is as broad as or broader in an aspect germane to a prior art rejection, but narrower in another aspect completely unrelated to the rejection, the recapture rule bars the claim;
  - (b) if the reissue claim is narrower in an aspect germane to [the] prior art rejection, and broader in an aspect unrelated to the rejection, the recapture rule does not bar the claim, but other rejections are possible.

*Id.* at 1470. See *Eggert*, 67 USPQ2d at 1732. See also *MBO Laboratories, Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1332, 81 USPQ2d 1661 (Fed. Cir. 2007) (noting that required analysis in recapture case is described in depth in *Clement*).

**Step 1: What “aspect(s)” of the reissue claims are broader than the issued patent claims**

To determine what “aspect(s)” of the reissue claims are broader than the patent claims it is necessary to compare the issued patent claims to the presently appealed reissue claims. A comparison of reissue claim 23 and issued claim 1 is provided below as illustrative of the necessary comparison. See Chart 1, below, comparing elements of issued claim 1 (left column) to independent reissue claim 23 (center column) to determine whether and in what aspects reissue claim 23 is broader than issued claim 1 (right column).

**Chart 1 – Comparison of Issued Claim 1 and Reissue Claim 23**

Claim 1	Reissue Claim 23	Broader Aspects
a handle defining a blade cavity and a first end;	a handle having a blade cavity and a first end;	No broader aspects.
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;	a blade having a first end and a second end opposite said first end, said first end of said blade having an aperture; a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is within said blade cavity; and	No broader aspects.
a longitudinally extending plunger carried in said blade cavity having a first end and second end opposite said first end;	a plunger including a spring, the plunger pivotally connected to the blade at a first end, and pivotally	Broader in aspect related to elimination of plunger being longitudinally



Claim 1	Reissue Claim 23	Broader Aspects
a pivotal connector pivotally connected to said handle for pivotally connecting said plunger to said handle, said first end of said plunger being longitudinally slidably carried by said pivotal connector for longitudinal movement of said plunger relative to said pivotal connector as said blade moves between said retracted and extended positions; and said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.	coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.	<p>extending.</p> <p>Broader in aspect related to elimination of plunger located in blade cavity.</p> <p>Broader in aspect related to lack of positive recitation of pivotal connector.</p> <p>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</p>

As can be appreciated from the above analysis, Step 1 reveals that independent reissue claim 23 is broader than issued claim 1 in several aspects. A review of the other pending reissue claims reveals similar findings, the results of which are not provided at this point for brevity. A summary of broadened aspects, however, is provided below in Charts 3-11 (right column) in accordance with Step 3 of the recapture analysis.

Of particular note in the comparison above is the broader aspect related to the elimination of the plunger being longitudinally slidably carried by a pivotal connector, which the Examiner has identified as a surrender-generating limitation. See Final Office Action, page 12. While the elimination of the plunger being longitudinally slidably carried by a pivotal connector broadens each of the reissue claims now under appeal, this aspect (as discussed in more detail below) does not relate to surrendered subject matter and therefore does not trigger application of the recapture rule.

#### Step 2: Determine whether the broader aspects relate to surrendered subject matter

In accordance with Step 2, it is critically important to determine what is “surrendered subject matter,” as the “recapture rule does not apply in the absence of evidence that the applicant’s amendment was ‘an admission that the scope of that claim was not in fact

patentable.”” *Clement*, 131 F.3d at 1469. This requires looking at the prosecution history of the original application and amendments made to the original claims in response to prior art rejections. Therefore, to properly determine “surrendered subject matter” it is necessary to analyze claim amendments in the context of the cited art. The following background of FR 1,171,740 to Pradel (hereinafter “Pradel”) is thus provided, as it was the sole reference in light of which subsequent claim amendments were made during prosecution of original claim 1.

### Brief Summary of Pradel

The following summary is provided with reference to Figures 18-22 provided below, which correspond to Figures 1 and 4-7 of Pradel, respectively.

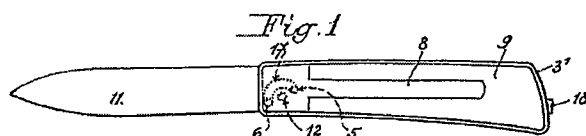


Figure 18  
(Fig. 1 of Pradel)

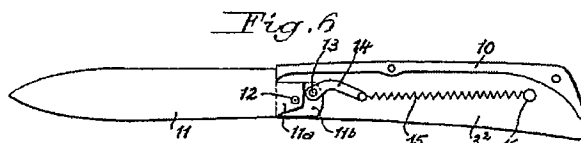


Figure 21  
(Fig. 6 of Pradel)

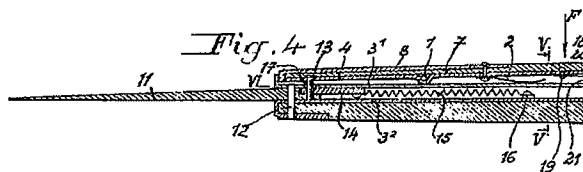


Figure 19  
(Fig. 4 of Pradel)

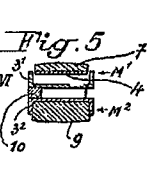


Figure 20  
(Fig. 5 of Pradel)

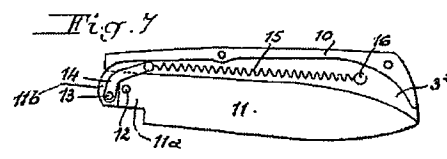


Figure 22  
(Fig. 7 of Pradel)

As shown in a review of the figures above, Pradel discloses an automatic knife (*i.e.*, switchblade) having a blade 11 pivotally coupled to a knife handle  $M^1$ ,  $M^2$  at pivot axis 12 for pivotal movement of the blade 11 from a retracted position (Figure 22) to an extended position (Figure 21). In the retracted position, the blade 11 is held in place by engagement of pin 13 with hole 6 in plate 4, wherein plate 4 is part of a mobile handle portion of handle  $M^1$ . Pin 13 holds the blade 11 in the retracted position against the biasing force of extension spring 15, the extension spring 15 pivotally connected at a first end 16 to the handle  $M^2$  and connected at a second end to a connecting rod 14. When in the extended position, pin 13 engages hole 5 (rather than hole 6) and locks the blade 11 in the extended position until a user releases the pin 13 by

applying pressure F to the mobile handle portion. When the mobile handle portion is depressed while in the extended state, a user is able to manually close the knife blade 11 against the biasing force of the extension spring 15.

In operation, the knife blade 11 is deployed in an automatic fashion without manual movement of the blade 11 (*e.g.*, as in a switchblade) – a feature illegal in many countries. To release the knife blade 11 from the retracted position, a user applies pressure F to the mobile handle portion of handle M<sup>1</sup>, the mobile handle portion then pivots about transverse axis 1 against a bias force applied by spring 2. Thus, as pressure F is applied, hole 6 located on an end of the mobile handle portion disengages pin 13 releasing the blade 11 which is then deployed via the potential energy stored in extension spring 15. The extension spring 15 retracts during deployment, pulling on connecting rod 14 and hence blade 11, thus extending the blade 11 to the extended position. In the extended position, the extension spring 15 continues to apply a pulling force on the connecting rod 14 and hence blade 11.

As can be appreciated from the description above, the extension spring 15 of Pradel does not retain the knife blade 11 in the closed position, but rather applies an opening or pulling force to the blade 11 throughout the range of motion of the blade 11. The extension spring 15 does not experience maximum deformation at an intermediate blade position, nor does the extension spring 15 experience an effective decrease in length and increase in length during deployment of the blade 11. Rather, the extension spring 15 undergoes only an effective decrease in length as the blade 11 pivots from the retracted position to the extended position.

Thus, as discussed in further detail below, various characteristics of the reissue claims are patentably distinct from the automatic knife disclosed in Pradel, and are therefore materially narrowed in aspects germane to the rejection in the original application.

#### Prosecution History of Claim 1 – Identifying Surrendered Subject Matter

Having provided a brief summary of the art cited in rejecting originally filed claim 1 as background (*i.e.*, Pradel), the analysis now turns to a review of the prosecution history of claim 1.

Claim 1 as originally filed is provided in Chart 2 below (left column) and is compared to claim 1 as amended on October 24, 1997 in response to rejections under 35 U.S.C.

§ 112 and 35 U.S.C. § 102(b) over Pradel (middle column). See Office Action, mailed July 24, 1997 (attached hereto as Appendix C). Modifications to claim 1 in response to prior art rejections are highlighted in bold text, whereas other clarifying amendments made in response to 35 U.S.C. § 112 rejections are italicized and noted with “112” in superscript to distinguish such amendments. See Interview Summary dated October 16, 1997 and Amendment, dated October 24, 1997 (attached hereto as Appendices D and E, respectively). Further comparison is provided to issued claim 1 (right column) noting additional clarifying amendments made to address concerns under 35 U.S.C. § 112. See Examiner Interview Summary, dated January 19, 1998 (attached hereto as Appendix F).

**Chart 2 – Amendments to Original Claim 1**

Original Claim 1	Claim 1 as Amended 10-24-97	Issued Claim 1
A folding knife, comprising:	A folding knife, comprising:	A folding knife, comprising:
a handle defining a blade cavity and a first end;	a handle defining a blade cavity and a first end;	a handle defining a blade cavity and a first end;
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position <i>wherein the blade is</i> <sup>112</sup> outside of said blade cavity and a retracted position <i>wherein the blade is</i> <sup>112</sup> substantially within said blade cavity;	a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for <i>allowing</i> <sup>112</sup> pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end;	a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end;	a <i>longitudinally extending spring-biased</i> <sup>112</sup> plunger carried in said blade cavity having a first end and second end opposite said first end;
said first end of said plunger including a pivotal connector	<del>said first end of said plunger</del> <b>including</b> a pivotal connector <b>connected to said handle</b>	a pivotal connector <i>pivotal</i> <sup>112</sup> connected to said handle <i>for</i> <sup>112</sup> pivotally

Original Claim 1	Claim 1 as Amended 10-24-97	Issued Claim 1
pivotally connecting said plunger to said handle;	pivotally connecting said plunger to said handle,	connecting said plunger to said handle,
	<b><u>said first end of said plunger being slidably carried by said pivotal connector as said blade moves between said retracted and extended positions;</u></b>	said first end of said plunger being <i>longitudinally</i> <sup>112</sup> slidably carried by said pivotal connector <i>for longitudinal movement of said plunger relative to said pivotal connector</i> <sup>112</sup> as said blade moves between said retracted and extended positions;
said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions <sup>112</sup> .

As can be appreciated from the comparison above, a single amendment was made to claim 1 in response to a prior art rejection, with subsequent clarifying amendments addressing concerns with respect to 35 U.S.C. § 112. The substantive amendments in response to the prior art rejection can be summarized as (i) separating the single limitation of “a plunger including a pivotal connector” into two limitations (hereinafter “pivotal connector separation refinement”), and (ii) further defining the connection of the first end of the plunger (hereinafter “plunger connection refinement”) (see bold text in Chart 2, above).

To reiterate, the substantive amendments identified in bold text in Chart 2 were made in response to a single rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Pradel. See Office Action, mailed July 24, 1997 (attached hereto as Appendix C). The Examiner specifically stated at page 6 of the July 24, 1997 Office Action:

FR ‘740 discloses a folding knife with every structural limitation of the claimed invention including a spring-biased plunger (14, 15) which is pivotally connected to the housing (at 16) and pivotally connected to the first end of the blade (at 13), and a clip (18).

As can be appreciated from this rejection, the original Examiner interpreted the device of Pradel to include a “spring-biased plunger ... including a pivotal connector” as recited in original claim 1, the “spring-biased plunger ... including a pivotal connector” including the connecting rod 14, extension spring 15, and pivotal connector at 16. See Figure 23, below.

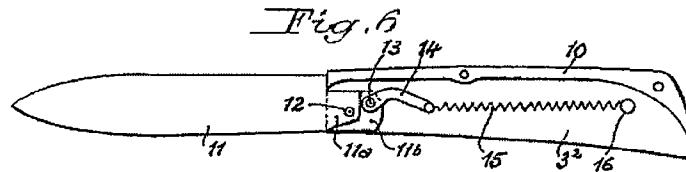


Figure 23  
(Figure 6 of Pradel)

In response to this rejection, Applicant submitted an amendment adding the “pivotal connector separation refinement” and the “plunger connection refinement,” discussed above. See Amendment, dated October 24, 1997 (attached hereto as Appendix E). This amendment is significant to the present analysis because such an amendment is often interpreted as an admission that the claim prior to amendment (*i.e.*, originally submitted claim 1) was not patentable over the cited art, namely Pradel. Thus, Applicant has presumably surrendered the subject matter of original claim 1, which can be summarized generally as:

A folding knife having a blade, a handle and a spring-biased plunger having a pivotal connector, the plunger pivotally connected at a first end to the handle and pivotally connected at a second end to the blade.

This is the general scope of claim 1 as originally filed and is the scope surrendered in view of the amendment made to overcome the rejection of claim 1 as being anticipated by Pradel.<sup>3</sup> Thus, as long as this broad embodiment is not recaptured in its original scope (*i.e.*, without further

<sup>3</sup> Appellant notes there is a fundamental disagreement between members of the Board regarding application of the recapture rule, specifically with respect to defining the scope of surrendered subject matter in light of amendments made during prosecution to distinguish over prior art. See *Ex Parte Browning*, Appeal No. 2007-0700, at 50 (Bd. Pat. App. & Inter. June 20, 2007) (“As this case demonstrates, there is a good faith debate among the judges of the Board of Patent Appeals and Interferences on how recapture issues should be resolved when, as here, there is a broadening and narrowing limitation in a claim sought to be reissued vis-à-vis a patent claim narrowed in the face of a prior art rejection during prosecution of the application that matured into the patent.”) (Judge McKelvey concurring) (non-precedential decision). However, as discussed in further detail later in this brief, *Clement* and *Eggert* remain binding precedent on the Board and clearly define surrendered subject matter in terms of the scope of the claim prior to amendment.

limitations germane to the prior art rejection), then surrendered subject matter has not been improperly recaptured.

### Step 3: Has Surrendered Subject Matter Crept Into the Reissue Claims?

Having defined the surrendered subject matter, it is necessary to determine whether the broader aspects of the reissue claims relate to surrendered subject matter in accordance with Step 2, and if so, determine whether any surrendered subject matter has crept into the reissue claims in accordance with Step 3. To facilitate such an analysis, a comparison of the surrendered claim scope (*i.e.*, original claim 1) with each of the appealed independent reissue claims is provided below in Charts 3-11. The elements of original claim 1 (*i.e.*, the elements defining the scope of surrendered subject matter) are provided in the left column with elements of the appealed independent reissue claims in the middle column, and “broader aspects” incorporated from Step 1 are provided in the right column. Those broader aspects identified in Step 1 that do not relate to surrendered subject matter (*i.e.*, the scope of original claim 1) are identified by strikethrough text.

**Chart 3 – Comparison of Original Claim 1 and Reissue Claim 23**

Original Claim 1	Reissue Claim 23	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle having a blade cavity and a first end;	No broader aspects.
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a first end and a second end opposite said first end, said first end of said blade having an aperture; a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the	No broader aspects.

Original Claim 1	Reissue Claim 23	Broadened Aspects from Step 1
	blade is within said blade cavity; and	
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	a plunger including a spring, the plunger pivotally connected to the blade at a first end, and pivotally coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.	<p><del>Broader in aspect related to elimination of plunger being longitudinally extending.</del></p> <p>Broader in aspect related to elimination of plunger located in blade cavity.</p> <p>Broader in aspect related to lack of positive recitation of pivotal connector.</p> <p><del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</del></p>

As can be seen in Chart 3 above, only two of the broadened aspects identified in Step 1 arguably relate to surrendered subject matter: (i) the elimination of the “plunger carried in said blade cavity,” and (ii) the elimination of “said plunger including a pivotal connector.” However, these broadened aspects are unrelated to the prior art rejection as the addition of such features would not distinguish the present invention over the knife disclosed in Pradel. For example, elimination of the limitation that the plunger is carried in a blade cavity (which broadens reissue claim 23 in that aspect) is not relevant to the prior art rejection because Pradel includes a plunger assembly carried in a blade cavity and such a limitation was not and has not been relied upon to distinguish reissue claim 23 over Pradel. *See Eggert*, 67 USPQ2d at 1731 (finding that omitted features, which were not argued by appellants as distinguishing over the applied prior art and which appeared to be fully met by the same, were not germane to the prior art rejection) (precedential).

Conversely, reissue claim 23 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position,



thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.” This limitation patentably distinguishes reissue claim 23 over Pradel which features an extension spring that is maximally deformed only when the blade reaches the fully retracted position. Thus, reissue claim 23 is narrower than the amended claim in an aspect germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 4** – Comparison of Original Claim 1 and Reissue Claim 34

Original Claim 1	Reissue Claim 34	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity.
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade pivoted on said handle for movement between stowed and deployed conditions relative to the handle; and	Broader in aspect related to elimination of recitation of blade pivot.  Broader in aspect related to elimination of blade position with respect to the blade cavity.
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said	an elongate, force-transmitting biasing spring having a variable length, the spring operatively attached between said blade and said handle, where said spring exhibits both an increase and a decrease in the length of the spring as said blade is moved from the stowed condition to the	Broader in aspect related to replacement of plunger with force-transmitting biasing spring.  Broader in aspect related to elimination of plunger located in blade cavity.  Broader in aspect related to lack of positive recitation of pivotal connector.  Broader in aspect related to elimination of plunger being pivotally connected at a first end to a handle and a second end

Original Claim 1	Reissue Claim 34	Broadened Aspects from Step 1
blade pivot as said blade moves between said retracted and extended position.	deployed condition.	to a blade.  <del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</del>

A review of the broadened aspects that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection. For example, elimination of the limitation that the handle defines a blade cavity (which broadens reissue claim 34 in that aspect) is not relevant to the prior art rejection because Pradel clearly includes a blade cavity and knives having such cavities are well known in the art.

Conversely, reissue claim 34 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “the spring operatively attached between said blade and said handle, where said spring exhibits both an increase and a decrease in the length of the spring as said blade is moved from the stowed condition to the deployed condition.” This limitation patentably distinguishes reissue claim 34 over Pradel which features an extension spring that experiences only a decrease in the length of the spring as the blade is deployed. Thus, reissue claim 34 is narrower than the amended claim in an aspect germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 5** – Comparison of Original Claim 1 and Reissue Claim 45

Original Claim 1	Reissue Claim 45	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity.
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement	a blade pivotally coupled to the handle to be moveable about a blade pivot point, such that the blade moves between a stowed position and a deployed position;	Broader in aspect related to replacement of blade pivot with blade pivot point.  Broader in aspect related to elimination of blade position

Original Claim 1	Reissue Claim 45	Broadened Aspects from Step 1
of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;		with respect to the blade cavity.
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	a plunger coupled between the handle and the blade such that a portion of the plunger remains a fixed distance from the blade pivot point; and a spring coupled to the plunger to act on the blade to urge the blade into the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position when the blade is moved by an outside force from the stowed position at least partially toward the deployed position.	<p><del>Broader in aspect related to elimination of plunger being longitudinally extending.</del></p> <p>Broader in aspect related to elimination of plunger located in blade cavity.</p> <p>Broader in aspect related to lack of positive recitation of pivotal connector.</p> <p>Broader in aspect related to elimination of plunger being pivotally connected at a first end to a handle and a second end to a blade.</p> <p><del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</del></p>

A review of the broadened aspects of reissue claim 45 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 45 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “a spring coupled to the plunger to act on the blade to urge the blade into the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position when the blade is moved by an outside force from the stowed position at least partially toward the deployed

position.” This limitation patentably distinguishes reissue claim 45 over Pradel which features an extension spring that acts on a connecting rod and thence a blade to urge the blade into an extended position. The extension spring of Pradel never urges the blade towards a stowed position, nor does Pradel feature a knife wherein the blade is moved by an outside force at least partially toward the deployed position. Thus, reissue claim 45 is narrower than the amended claim in an aspect germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 6 – Comparison of Original Claim 1 and Reissue Claim 52**

Original Claim 1	Reissue Claim 52	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity.
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, between a retracted position and an extended position;	Broader in aspect related to elimination of blade pivot.  Broader in aspect related to elimination of blade position with respect to the blade cavity.
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector	biasing means for holding the blade in the retracted position in the handle while the blade is in the retracted position and for biasing the blade toward the extended position relative to the	Broader in aspect related to replacement of plunger with biasing means.  Broader in aspect related to elimination of plunger located in blade cavity.

Original Claim 1	Reissue Claim 52	Broadened Aspects from Step 1
pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	handle when the blade is moved from the retracted position past a point of maximum bias toward the extended position; and	<p>Broader in aspect related to lack of positive recitation of pivotal connector.</p> <p>Broader in aspect related to elimination of plunger being pivotally connected at a first end to a handle and a second end to a blade.</p> <p><del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</del></p>
	moving means for moving the blade from the retracted position to the extended position with one hand while holding the knife with the same one hand	

A review of the broadened aspects of reissue claim 52 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 52 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “biasing means for holding the blade in the retracted position in the handle while the blade is in the retracted position and for biasing the blade toward the extended position relative to the handle when the blade is moved from the retracted position past a point of maximum bias toward the extended position.” This limitation patentably distinguishes reissue claim 52 over Pradel which features an extension spring for biasing the blade toward an extended position, but not for conversely biasing the blade toward a retracted position as required. Furthermore, the extension spring of Pradel has maximum bias at the fully retracted position and not at an intermediate blade position. Thus, reissue claim 52 is narrower than the amended claim in an aspect germane to the prior art rejection, and only

broadener than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 7 – Comparison of Original Claim 1 and Reissue Claim 58**

Original Claim 1	Reissue Claim 58	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity.
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;	Broader in aspect related to elimination of blade pivot.  Broader in aspect related to elimination of blade position with respect to the blade cavity.
	a contact pin coupled to the blade and extending outward from the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand	
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said	a biasing element including a spring;	Broader in aspect related to replacement of plunger with biasing element.  Broader in aspect related to elimination of plunger located in blade cavity.  Broader in aspect related to lack of positive recitation of pivotal connector.

Original Claim 1	Reissue Claim 58	Broadened Aspects from Step 1
blade moves between said retracted and extended position.		<p>Broader in aspect related to elimination of plunger being pivotally connected at a first end to a handle and a second end to a blade.</p> <p>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</p>
	a first coupling element operatively coupling a first end of the biasing element to the handle; and	
	a second coupling element operatively coupling a second end of the biasing element to the blade.	

A review of the broadened aspects of reissue claim 58 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 58 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand.” This limitation patentably distinguishes reissue claim 58 from Pradel because Pradel does not disclose, nor does it require, a contact pin for opening the blade in light of the fact that Pradel relates to an automatic knife that opens without manual movement of the blade. Thus, reissue claim 58 is narrower than the amended claim in an aspect germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 8 – Comparison of Original Claim 1 and Reissue Claim 62**

Original Claim 1	Reissue Claim 62	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;	Broader in aspect related to elimination of blade pivot; and  Broader in aspect related to elimination of blade position with respect to the blade cavity
	a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand	
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	a biasing element including a spring, configured to apply a closing force to the blade while the blade is in the retracted position;	Broader in aspect related to replacement of plunger with biasing element;  Broader in aspect related to elimination of plunger located in blade cavity;  Broader in aspect related to lack of positive recitation of pivotal connector;  Broader in aspect related to elimination of plunger being pivotally connected at a first end to a handle and a second end to a blade; and



Original Claim 1	Reissue Claim 62	Broadened Aspects from Step 1
		<del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</del>
	a first coupling element operatively coupling a first end of the biasing element to the handle; and	
	a second coupling element operatively coupling a second end of the biasing element to the blade.	

A review of the broadened aspects of reissue claim 62 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 62 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “a contact pin coupled to the blade and extending outward from the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand.” This limitation patentably distinguishes reissue claim 62 from Pradel because Pradel does not disclose, nor does it require, a contact pin for opening the blade in light of the fact that Pradel relates to an automatic knife that opens without manual movement of the blade. Furthermore, reissue claim 62 recites “a biasing element including a spring, configured to apply a closing force to the blade while the blade is in the retracted position,” which is not disclosed or taught by Pradel. Rather, Pradel teaches the use of an extension spring to apply an opening force for automatic opening of a knife blade. Thus, reissue claim 62 is narrower than the amended claim in an aspect germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 9 – Comparison of Original Claim 1 and Reissue Claim 63**

Original Claim 1	Reissue Claim 63	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;	Broader in aspect related to elimination of blade pivot; and  Broader in aspect related to elimination of blade position with respect to the blade cavity
	a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand	
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position;	Broader in aspect related to replacement of plunger with biasing element;  Broader in aspect related to elimination of plunger located in blade cavity;  Broader in aspect related to lack of positive recitation of pivotal connector;  Broader in aspect related to elimination of plunger being pivotally connected at a first end to a handle and a second end to a blade; and

Original Claim 1	Reissue Claim 63	Broadened Aspects from Step 1
		<del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.</del>
	a first coupling element operatively coupling a first end of the biasing element to the handle; and	
	a second coupling element operatively coupling a second end of the biasing element to the blade.	

A review of the broadened aspects of reissue claim 63 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 63 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand.” This limitation patentably distinguishes reissue claim 63 from Pradel because Pradel does not disclose, nor does it require, a contact pin for opening the blade in light of the fact that Pradel relates to an automatic knife that opens without manual movement of the blade. Furthermore, reissue claim 63 recites “a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position,” which is not disclosed or taught by Pradel. Rather, Pradel teaches the use of an extension spring to apply an opening force for automatic opening of a knife blade and thus assists rather than resists rotation of the blade toward an extended position when in the retracted position. Thus, reissue claim 63 is narrower than the amended claim in an aspect germane to the prior art rejection, and only

broadener than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 10** – Comparison of Original Claim 1 and Reissue Claim 65

Original Claim 1	Reissue Claim 65	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle having a blade cavity and a first end;	
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a first end and a second end opposite said first end; said first end of said blade having an aperture; a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is within said blade cavity;	
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.	a plunger including a spring, the plunger pivotally connected to the blade at a first end, and operatively coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point; and	<p>Broader in aspect related to elimination of plunger located in blade cavity;</p> <p>Broader in aspect related to lack of positive recitation of pivotal connector;</p> <p>Broader in aspect related to elimination of plunger being pivotally connected to a handle; and</p> <p><del>Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal</del></p>

		connector.
	a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.	

A review of the broadened aspects of reissue claim 65 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 65 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.” This limitation patentably distinguishes reissue claim 65 over Pradel which features an extension spring that is maximally deformed when the blade is in the retracted position and assists opening during the entire range of blade motion. Furthermore, reissue claim 65 recites a “safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position,” which is not disclosed or taught by Pradel. Rather, Pradel teaches the use of a locking element 18 that prevents depression of a mobile handle portion and hence deployment of the blade 11. See Figure 19, above. The locking element of Pradel does not contact, restrain or otherwise interact with the plunger of Pradel (*i.e.*, connecting rod 14 and extension spring 15). Thus, reissue claim 65 is narrower than the amended claim in

aspects germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

**Chart 11 – Comparison of Original Claim 1 and Reissue Claim 66**

Original Claim 1	Reissue Claims 66	Broadened Aspects from Step 1
A folding knife, comprising:	A folding knife, comprising:	
a handle defining a blade cavity and a first end;	a handle;	Broader in aspect related to elimination of blade cavity
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for allowing pivotal movement of said blade about said blade pivot between an extended position outside of said blade cavity and a retracted position substantially within said blade cavity;	a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;	Broader in aspect related to elimination of blade pivot; and  Broader in aspect related to elimination of blade position with respect to the blade cavity
	a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply opening force to the blade with a finger of the same hand;	
a spring biased plunger carried in said blade cavity having a first end and second end opposite said first end; said first end of said plunger including a pivotal connector pivotally connecting said plunger to said handle; said second end of said plunger being pivotally connected to said first end of said blade for orbital movement	a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position; and	Broader in aspect related to replacement of plunger with biasing element;  Broader in aspect related to lack of positive recitation of pivotal connector;  Broader in aspect related to elimination of plunger being pivotally connected at a first

Original Claim 1	Reissue Claims 66	Broadened Aspects from Step 1
about said blade pivot as said blade moves between said retracted and extended position.		end to a handle and a second end to a blade; and  Broader in aspect related to elimination of plunger being longitudinally slidably carried by a pivotal connector.
	a first coupling element operatively coupling a first end of the biasing element to the handle;	
	a second coupling element operatively coupling a second end of the biasing element to the blade; and	
	a locking member positioned in the handle and having a first position in which the blade may be freely moved between the retracted and extended positions and a second position in which the blade is locked in the extended position.	

A review of the broadened aspects of reissue claim 66 that relate to surrendered subject matter reveals that they all relate to aspects that would not distinguish the present invention over the knife disclosed in Pradel and therefore are not relevant to the prior art rejection.

Conversely, reissue claim 66 includes a narrowing aspect relevant to the prior art rejection in the form of the following limitation: “a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply opening force to the blade with a finger of the same hand.” This limitation patentably distinguishes reissue claim 66 from Pradel because Pradel does not disclose, nor does it require, a contact pin for opening the blade in light of the fact that Pradel relates to an automatic knife that opens without manual movement of the blade. Furthermore,

reissue claim 66 recites “a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position,” which is not disclosed or taught by Pradel. Rather, Pradel teaches the use of an extension spring to apply an opening force for automatic opening of a knife blade and thus assists rather than resists rotation of the blade toward an extended position when in the retracted position. Thus, reissue claim 65 is narrower than the amended claim in an aspect germane to the prior art rejection, and only broader than the amended claim in aspects unrelated to the rejection, thereby rendering the recapture rule inapplicable under principle 3(b) of *Clement*.

#### Summary of Recapture Analysis

As can be appreciated from the above, all of the pending independent reissue claims (and thus, necessarily the dependent claims thereof) include narrowing aspects that distinguish such claims over Pradel – the sole reference cited in rejecting the originally submitted claims. This is confirmed by the fact that the present Examiner does not cite Pradel as anticipating or rendering obvious the pending reissue claims. In addition, it is shown that there are no aspects of the present reissue claims broader than the amended claim (*i.e.*, original claim 1) that are germane to the prior art rejection (*i.e.*, anticipation by Pradel). Rather, the broadened aspects identified above that relate to surrendered subject matter all pertain to aspects unrelated to the rejection because such aspects were not and are not being relied upon to distinguish Pradel. For example, the aspect related to “a handle defining a blade cavity” is clearly disclosed and well known in the art. Thus, the broadened recitation of simply “a handle” is a broadening completely unrelated to the rejection. Put another way, adding the limitation of “a handle defining a blade cavity” would not patentably distinguish an otherwise non-patentable claim over Pradel and therefore can not be considered an aspect germane to the rejection. Therefore, in accordance with principle 3(b) of *Clement*, the recapture rule does not bar reissue claims 23-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60, 62, 63, 65 and 66, and therefore, the rejection under 35 U.S.C. § 251 should be withdrawn.



### Noted Disagreement Over the Application of the Recapture Rule

The crux of the disagreement over the application of the recapture rule in this case relates to the scope of surrendered subject matter – the Examiner taking the position that any claim not including a limitation added by way of amendment in the prosecution of the original application to overcome prior art is *per se* a recapture of surrendered subject matter. In contrast, Appellant takes the position that surrendered subject matter is a fact-specific analysis that requires a determination whether a given applicant has admitted certain scope to be unpatentable – an analysis, which in this case, establishes only that claim 1 as originally presented was impliedly admitted to be unpatentable. *See Clement*, 131 F.3d at 1469 (“recapture rule does not apply in the absence of evidence that the applicant’s amendment was ‘an admission that the scope of that claim was not in fact patentable.’”).

This is not a case where an applicant has touted that a certain feature is key or critical to patentability over the cited art or a case in which the allegedly surrender-generating limitation was contained in the original claims or in a claim subsequently amended in light of prior art rejections. Rather, this is a case in which one of a number of possible distinguishing limitations was added to overcome a single § 102(b) rejection in light of a single allegedly anticipating reference (*i.e.*, Pradel). From this, it can only be concluded that the scope of amended claim 1 (*i.e.*, the originally presented claim) was surrendered.

As noted in footnote 1, above, the disagreement at issue here has been recognized explicitly by the Board. *See Ex Parte Browning*, Appeal No. 2007-0700, at 50 (Bd. Pat. App. & Inter. June 20, 2007). However, in support of Appellant’s position, it must be noted that the above recapture analysis is consistent with and in fact explicitly set forth in *Clement* and *Eggert*, cases which are binding on the Board. Appellant is aware that, at this point in time, some judges of the Board have declined to follow *Eggert* in view of an alleged conflict with *North American Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 75 USPQ2d 1545 (Fed. Cir. 2005). *See, e.g., Ex Parte Browning*, Appeal No. 2007-0700 (Bd. Pat. App. & Inter. 2007). A review of the prosecution history in *North American Container*, however, dispels the presence of any such conflict, as the surrender-generating limitation of the issued claims in that case was contained in a finally rejected claim of the parent application that was subsequently canceled in its entirety, and thus legitimately considered surrendered subject matter. *See Ex Parte Kraus*, Appeal No.

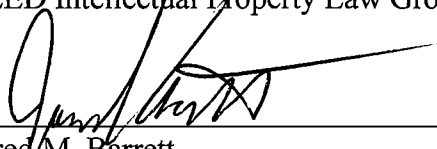
2005-0841, at 83-85 (Bd. Pat. App. & Inter. 2005) (discussing prosecution history of *North American Container* in light of the recapture rule) (Judges Nase, Garris, Delmendo and Franklin concurring-in-part and dissenting-in-part). Thus, *North American Container* provides no support for overruling or disregarding the analysis announced in *Clement* and followed in *Eggert* (and applied in the present case above). In fact, the continuing validity of the recapture test set forth in *Clement* was recently confirmed in a case subsequent to *North American Container*. See *MBO Laboratories, Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 81 USPQ2d 1661 (Fed. Cir. 2007) (noting that the required analysis in a recapture case is described in depth in *Clement*).

To apply a *per se* rule rejecting all of the reissue claims in this case that do not contain the “plunger being slidably carried” limitation is contrary to binding precedent and contrary to the language of 35 U.S.C. § 251 which permits broadened claims in a reissue. Conversely, applying the recapture test in accordance with *Clement* (and *Eggert*) to allow Appellant to correct the failure to claim an embodiment which is narrower than any surrendered subject matter in an aspect germane to the prior art rejection and broader only in aspects unrelated to the rejection, is the very type of error 35 U.S.C. § 251 is meant to permit to be corrected.

To the extent the Board rejects Appellant’s position and continues to view *North American Container* as conflicting with *Eggert*, the present reissue claims nevertheless avoid the recapture rule based on the “Materially Narrowed in Overlooked Aspects” analysis explained in *Ex Parte Musaka*, Appeal No. 2007-3582, at 55-56 (Bd. Pat. App. & Inter. 2007) (“A reissue claim is materially narrowed and thus avoids the recapture rule when limited to aspects of the invention: (1) which had not been claimed and thus were overlooked during prosecution of the original patent application; and (2) which patentably distinguish over the prior art.”) (non-precedential). The material limitations now found in the pending reissue claims were never presented during administrative examination of the original application (*i.e.*, such aspects were overlooked) and, as explained above, patentably distinguish each of the reissue claims over Pradel and the other art of record. Accordingly, the rejection based under 35 U.S.C. § 251 should be withdrawn on this alternative ground.

Respectfully submitted,

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## VIII. CLAIMS APPENDIX

The claims listed herein are formatted in accordance with reissue practice as specified in § 1.173 and MPEP § 1453, except that claims not at issue are not listed, while their status is indicated. A complete listing of the pending claims without markings is provided for convenience as Appendix G.

1-13. (Allowed)

14. (Canceled)

15-22. (Allowed)

23. (New) A folding knife, comprising:

a handle having a blade cavity and a first end;

a blade having a first end and a second end opposite said first end, said first end of said blade having an aperture;

a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is within said blade cavity; and

a plunger including a spring, the plunger pivotally connected to the blade at a first end, and pivotally coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.

24. (New) A knife as defined in claim 23, wherein said blade includes said first end of said blade having an extension projecting outwardly from said handle when said

blade is in said retracted position; said extension defining an extreme edge portion with a plurality of ridges thereon for contact by a user when moving the blade from said retracted position to said extended position.

25. (New) A knife as defined in claim 23, further comprising a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

26. (Canceled)

27. (New) A knife as defined in claim 23, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent one of said first and second sides of said handle.

28. (New) A knife as defined in claim 23, wherein the first end of said plunger includes a clevis having a pin pivotally connected to said first end of said blade.

29. (New) A knife as defined in claim 23, wherein said first end of said blade includes an arcuate slot and wherein said handle includes a pin carried in said arcuate slot, said arcuate slot having a first end and a second end, and said first end of said arcuate slot limiting said blade from movement beyond said extended position.

30-33. (Canceled)

34. (New) A folding knife comprising:  
a handle;

a blade pivoted on said handle for movement between stowed and deployed conditions relative to the handle; and

an elongate, force-transmitting biasing spring having a variable length, the spring operatively attached between said blade and said handle, where said spring exhibits both an increase and a decrease in the length of the spring as said blade is moved from the stowed condition to the deployed condition.

35. (Canceled)

36. (New) The knife of claim 34 wherein the operative attachment of said spring to said blade comprises a plunger operatively interconnecting the spring to the blade.

37. (New) A knife as defined in claim 36, further comprising a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into the path of movement of said plunger for contacting said plunger.

38-44. (Canceled)

45. (New) A knife comprising:

a handle;

a blade pivotally coupled to the handle to be moveable about a blade pivot point, such that the blade moves between a stowed position and a deployed position;

a plunger coupled between the handle and the blade such that a portion of the plunger remains a fixed distance from the blade pivot point; and

a spring coupled to the plunger to act on the blade to urge the blade into the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position when the blade is moved by an outside force from the stowed position at least partially toward the deployed position.

46-51. (Canceled)

52. (New) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, between a retracted position and an extended position;

biasing means for holding the blade in the retracted position in the handle while the blade is in the retracted position and for biasing the blade toward the extended position relative to the handle when the blade is moved from the retracted position past a point of maximum bias toward the extended position; and

moving means for moving the blade from the retracted position to the extended position with one hand while holding the knife with the same one hand.

53. (Canceled)

54. (New) The folding knife of claim 52 wherein the moving means comprises at least one of a plurality of ridges formed on the tang of the blade, a plurality of directional saw-like teeth formed on the tang of the blade, or a pin coupled to an upper portion of the blade.

55-57. (Canceled)

58. (New) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin coupled to the blade and extending outward from the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand;

a biasing element including a spring;

a first coupling element operatively coupling a first end of the biasing element to the handle; and

a second coupling element operatively coupling a second end of the biasing element to the blade.

59. (New) The knife of claim 58 wherein the biasing element is arranged such that the spring thereof increases in tension to a point of maximum tension as the blade is moved through the arc from the retracted position toward the extended position, then decreases in tension as the blade continues past the point of maximum tension toward the extended position.

60. (New) The knife of claim 58 further including a plurality of ridges positioned on the tang of the blade.

61. (Canceled)

62. (New) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand;

a biasing element including a spring, configured to apply a closing force to the blade while the blade is in the retracted position;

a first coupling element operatively coupling a first end of the biasing element to the handle; and

a second coupling element operatively coupling a second end of the biasing element to the blade.



63. (New) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand;

a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position;

a first coupling element operatively coupling a first end of the biasing element to the handle; and

a second coupling element operatively coupling a second end of the biasing element to the blade.

64. (Canceled)

65. (New) A folding knife, comprising:

a handle having a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having an aperture;

a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is within said blade cavity;

a plunger including a spring, the plunger pivotally connected to the blade at a first end, and operatively coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point; and

a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

66. (New) A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply opening force to the blade with a finger of the same hand;

a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position;

a first coupling element operatively coupling a first end of the biasing element to the handle;

a second coupling element operatively coupling a second end of the biasing element to the blade; and

a locking member positioned in the handle and having a first position in which the blade may be freely moved between the retracted and extended positions and a second position in which the blade is locked in the extended position.

## IX. EVIDENCE APPENDIX

Appendix A is a Screenshot from [www.meyercousa.com/about.lasso](http://www.meyercousa.com/about.lasso)

Appendix B is a Final Office Action mailed March 13, 2008.

Appendix C is a Non-Final Office Action mailed July 24, 1997.

Appendix D is an Interview Summary dated October 16, 1997.

Appendix E is an Amendment dated October 24, 1997.

Appendix F is an Interview Summary dated January 19, 1998.

Appendix G is an Unmarked Listing of Pending Claims

X. RELATED PROCEEDINGS APPENDIX

None.





## APPENDIX B

### UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,697	10/06/2000	Walter W. Collins	530055.413R1	1037
500 7590 03/13/2008 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVE SUITE 5400 SEATTLE, WA 98104			EXAMINER DEXTER, CLARK F	
			ART UNIT 3724	PAPER NUMBER
			MAIL DATE 03/13/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/680,697	<b>Applicant(s)</b> COLLINS, WALTER W.	
	<b>Examiner</b> Clark F. Dexter	<b>Art Unit</b> 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-25, 27-29, 34-37, 45, 52, 54, 58-60 and 62-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 and 15-22 is/are allowed.
- 6) ☒ Claim(s) 23-25, 27-29, 34-37, 45, 52, 54, 58-60 and 62-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. The amendment filed on July 18, 2007 and December 19, 2007 have been made of record.

#### ***Claim Rejections - 35 USC § 112, 1<sup>st</sup> paragraph***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 23-25, 27-29, 58-60, 62, 63, 65 and 66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 58-60, 62, 63 and 66, the disclosure still does not appear to provide support for the subject matter set forth in the subject claims. While the applicant has taken the position held by the Examiner in the previous Office action that the claimed "biasing element" refers to the spring, and that the spring can clearly be considered to be a biasing element, the claim remains deficient as follows.

The disclosure does not provide support for the ends of the biasing element (now interpreted by applicant to be the spring 90) being coupled to the handle and blade respectively. That is, there is no single integral feature or plural integral features that



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couple(s) the end of the spring to the handle, or the end of the spring to the blade.

Rather, both ends of the spring 90 are free and are not coupled to anything. Further, the element that is coupled to the handle is pin 95 or the integral combination of pin 95 and sleeve or collar 92, wherein the sleeve or collar 92 is coupled to shaft 80, not to spring 90; similarly, the element that is coupled to the blade is pin 86 or the integral combination of pin 86 and yoke or clevis 82, wherein the yoke or clevis 82 is coupled to shaft 80, not to spring 90. Thus, it is respectfully submitted that there remains no support for the claimed subject matter.

Further, regarding claims 23-25, 27-29 and 65, the original disclosure does not provide support for the combination now set forth in claims 23 and 65 of:

“said blade having an aperture, and

a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is substantially within said blade cavity.”

Rather support is provided for the blade having a pivot pin 56 that is connected to the first end of the handle for pivotal movement of said blade about said blade pivot between an extended position and a retracted position.

***Claim Rejections - 35 USC § 112, 2<sup>nd</sup> paragraph***

4. Claims 58-60, 62, 63 and 66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 58, 62, and 66, line 6 of each claim, the recitation "a contact pin" is vague and indefinite as to what disclosed structure is being referred, particularly as to what disclosed "pin" is being referred (it is noted that the only disclosed "pin" that appears to be coupled to the blade is either pin 20 or pin 56, neither of which is capable of performing the claimed function; and the disclosed structure that is capable of performing the claimed function is the plurality of ridges such as recited in claim 60).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 45 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown, pn 1,864,011.

**Regarding claim 45**, Brown '011 discloses a folding knife with every structural limitation of the claimed invention including:

a handle (e.g., structure including 9, 10);

a blade (e.g., 1, 1) pivotally coupled to the handle to be moveable about a blade pivot point (e.g., 11, 11), such that the blade moves between a stowed position (e.g., shown in Fig. 1) and a deployed position;

a plunger (e.g., the left portion of 3, or the right portion of 3 as viewed in Fig. 1) coupled between the handle and the blade such that a portion of the plunger remains a fixed distance from the blade pivot point (e.g., the left portion of 3 remains a fixed distance from the right pivot point 11, particularly during pivoting of the upper blade 1 about the right pivot point; and the right portion of 3 remains a fixed distance from the left pivot point 11, particularly during pivoting of the lower blade 1 about the left pivot point); and

a spring (e.g., 8) coupled to the plunger to act on the blade to urge the blade into the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position when the blade is moved by an outside force from the stowed position at least partially toward the deployed position.

**Regarding claim 52,** Brown '011 discloses a folding knife with every structural limitation of the claimed invention including:

a handle (e.g., structure including 9, 10);

a blade (e.g., 1, 1) having a tang coupled to the handle, the blade configured to rotate, relative to the handle, between a retracted position (e.g., shown in Fig. 1) and an extended position; biasing means (e.g., 8) for holding the blade in the retracted position in the handle while the blade is in the retracted position and for biasing the blade toward

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the extended position relative to the handle when the blade is moved from the retracted position past a point of maximum bias toward the extended position; and

moving means (e.g., the notch located on the blade between numerals 1 and 7, wherein the notch can clearly be accessed by a finger of a user's hand and pushed toward an open/extended position while the user is holding the knife in the same hand) for moving the blade from the retracted position to the extended position with one hand while holding the knife with the same one hand.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 58, 59, 62 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, pn 1,864,011 (Brown '011) in view of Yablonovitch, pn 5,009,008 or Ennis, pn 5,095,624.

**Regarding claims 58 and 59,** Brown '011 discloses a folding knife with almost every structural limitation of the claimed invention including:

a handle (e.g., structure including 9, 10);

a blade (e.g., 1, 1) having a tang end coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position (e.g.,

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shown in Fig. 1) and an extended position when an opening force is applied to the blade;

- a biasing element including a spring (e.g., 8);

- a first coupling element (e.g., the leftmost portion of 3) operatively coupling a first end of the biasing element to the handle; and

- a second coupling element (e.g., the rightmost portion of 3) operatively coupling a second end of the biasing element to the blade;

[claim 59] wherein the biasing element is arranged such that the spring thereof increases in tension to a point of maximum tension as the blade is moved through the arc from the retracted position toward the extended position, then decreases in tension as the blade continues past the point of maximum tension toward the extended position.

**Regarding claim 62,** Brown '011 discloses a folding knife with almost every structural limitation of the claimed invention including:

- a handle (e.g., structure including 9, 10);

- a blade (e.g., 1, 1) having a tang end coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position (e.g., shown in Fig. 1) and an extended position when an opening force is applied to the blade;

- a biasing element including a spring (e.g., 8), configured to apply a closing force to the blade while the blade is in the retracted position;

- a first coupling element (e.g., the leftmost portion of 3) operatively coupling a first end of the biasing element to the handle; and

a second coupling element (e.g., the rightmost portion of 3) operatively coupling a second end of the biasing element to the blade.

**Regarding claim 63**, Brown '011 discloses a folding knife with almost every structural limitation of the claimed invention including:

a handle (e.g., structure including 9, 10);

a blade (e.g., 1, 1) having a tang end coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position (e.g., shown in Fig. 1) and an extended position when an opening force is applied to the blade;

a biasing element including a spring (e.g., 8), configured to resist rotation of the blade toward the extended position while the blade is in the retracted position;

a first coupling element (e.g., the leftmost portion of 3) operatively coupling a first end of the biasing element to the handle; and

a second coupling element (e.g., the rightmost portion of 3) operatively coupling a second end of the biasing element to the blade.

**Brown lacks:**

a contact element on the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a finger of the same hand.

However, such contact pins are old and well known in the art and facilitate removing the blade from the handle. Yablonovitch and Ennis each discloses one example of such a contact pin. Therefore, it would have been obvious to one having ordinary skill in the art to provide such a contact pin on the knife of Brown to gain the

well known benefits such as that described above as well as those described in Yablonovitch and Ennis.

9. Claims 54 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, pn 1,864,011 (Brown '011) as described above for claims 52 and 58, and further in view of Thompson et al., pn 5,131,149 (Thompson '149).

Brown '011 lacks the first end of the blade having an extension with a plurality of ridges thereon or, for claims 54 and 60, a plurality of directional saw-like teeth, or a pin coupled to an upper portion of the blade. Thompson '149 discloses a blade having such a plurality of ridges on a first end of the blade and teaches that it facilitates one-handed actuation of the blade. Therefore, it would have been obvious to one having ordinary skill in the art to provide an extension having a plurality of ridges on the blade of Brown '011 for the benefits taught by Thompson '149 including that described above.

10. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, pn 1,864,011 (Brown '011).

Brown discloses a folding knife with almost every structural limitation of the claimed invention including a blade (e.g., 1), and an elongate, force-transmitting spring (e.g., 8) that performs the recited function(s), and a plunger (e.g., the portion to which the lead line for numeral 3 contacts). Further, the spring of Brown is operatively attached between the blade and the handle; for example, the spring (e.g., 8) is operatively attached to the handle via the leftmost portion corresponding to 3 and the associated pins (e.g., 11, 12) and openings (e.g., 5, 6), and the spring is also

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operatively connected to the blade via the rightmost portion corresponding to 3 and the associated pins (e.g., 11, 13) and openings (e.g., 5, 14).

Brown lacks the spring operating in the claimed direction; that is, a spring that exhibits the decrease in effective length as the blade is moved from one of the stowed and deployed conditions toward an intermediate point, and an increase in effective length as the blade is moved from the intermediate point toward the other conditions. However, it is old and well known in the art that springs operating in tension are equivalent to springs operating in compression, particularly since such springs are well known equivalents. Therefore, it would have been obvious to one having ordinary skill in the art to simply change the type of the spring that operates in tension to a spring that operates in compression.

11. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Brown, pn 1,864,011 (Brown '011) in view of Yablonovitch, pn 5,009,008 or Ennis, pn 5,095,624 as described above for claim 63 and, if necessary, further in view of Cassady, pn 5,293,690 (hereafter Cassady '690) or Howard, pn 4,985,998.

It is noted that claim 66 is a combination of claim 63 with the addition of a locking member as claimed at the end of claim 66, and the prior art combination applied to claim 63 teaches a knife with almost every structural limitation of the claimed invention as described above for claim 63 but lacks a locking member as claimed. However, the Examiner takes Official notice that such locking members are old and well known in the art and provide various well known benefits including facilitating cutting and manipulating the knife during cutting while avoiding inadvertent closing of the knife



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interrupting the cutting operation and/or causing injury to the user. It is noted that there are two subclasses (160, 161) in class 30 directed specifically toward such locking mechanisms. Cassady '690, Ennis and Howard each discloses an example of one of the various types of such locking mechanisms. Therefore, it would have been obvious to one having ordinary skill in the art to provide such a locking member on the knife of Brown '011 for the well known benefits including those described above.

### ***Issues Relating to Reissue Application***

12. Claims 23-25, 27-29, 34, 36, 37, 45, 52, 54, 58-60 and 62-66 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to claim subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope of claim subject matter surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

Each of reissue claims 23, 34, 45, 52, 58 and 62-66 is an independent claim that fails the Third Step of the test set forth by the Court of Appeals for the Federal Circuit (see MPEP 1412.02). Specifically, at least one of the limitations added during the prosecution of the patent to distinguish over the prior art (that is, at least one of the surrender-generating limitations) was:

“the first end of the plunger being slidably carried by said pivotal connector as said blade moves between said retracted and extended positions.”

It is noted that while reissue claim 12, which is NOT rejected as being an improper recapture, is broader than patent claim 1 in the area of surrender, it does not entirely omit the limitation but rather sets forth that the first end of the plunger *assembly* is slidably and pivotally connected to the *handle*, rather than being slidably connected to a pivotal connector that is connected the handle. Thus, claim 12 merely recites a broader form of the key limitation added/argued during original prosecution to overcome an art rejection. It is noted that reissue claim 12 is considered narrower than patent claim 1 in other respects; specifically, the subject matter in the third paragraph of the claim which recites that the plunger assembly is configured to maintain the blade in the extended position ... , and to retain the blade in the retracted position ... . Therefore, claim 12 is NOT considered to be a claim that impermissibly recaptures what was previously surrendered and therefore is NOT barred under 35 U.S.C. 251.

However, none of reissue claims 23, 34, 45, 52, 58 and 62-66 include a recitation relating to the surrender-generating limitation recited above. Thus, these claims

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impermissibly recapture what was previously surrendered, and are barred under 35 U.S.C. 251.

***Allowable Subject Matter***

13. Claims 1-13 and 15-22 are allowable over the prior art of record.

***Claimed Subject Matter***

14. Claims 23-25, 27-29, 65 and 66 are considered to read over the prior art of record because the prior art or record does not teach or suggest the claimed combination of features including a blade as claimed, a blade pivot as claimed, and a plunger pivotally connected to the blade at a first end and pivotally connected to the handle at a second end. However, these claims **cannot** be considered to be “allowable” at this time due to the rejection(s) under 35 U.S.C. 112, 1<sup>st</sup> paragraph set forth in this Office action. Therefore, upon the claims being rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action, further consideration of these claims with respect to the prior art will be necessary.

Additionally, claims 23-25, 27-29, 37, 65 and 66 **cannot** be considered to be “allowable” at this time due to the rejection(s) under 35 U.S.C. 251 (improper recapture) set forth in this Office action. Therefore, upon the claims being rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action, further consideration of these claims with respect to the prior art will be necessary.

***Response to Arguments***

15. Applicant's arguments filed December 19, 2007 have been fully considered but they are not persuasive.

Regarding applicant's argument directed to claim 45 in the second paragraph on page 12 of the subject response, the Examiner respectfully disagrees. Applicant argues that:

"In Brown, the plate 3 moves back and forth and no portion remains in the fixed position."

It is respectfully submitted that this statement is inaccurate. Clearly, when only one blade is opened (e.g., the blade with the rightmost pivot), the opposite end of plate 3 corresponding to the other blade (e.g., the blade with the leftmost pivot) does not move. Therefore, at least the portion of the plate 3 (e.g., the left portion of plate 3) remains a fixed distance from the blade pivot point (e.g., the rightmost blade pivot).

Regarding applicant's arguments directed to claim 52 in the third paragraph on page 12 of the subject response, the Examiner respectfully disagrees with applicant's position and maintains that the subject component(s) of Brown '011 are equivalent with respect to those disclosed in the present application in that they perform substantially the same function in substantially the same manner to produce substantially the same results.

Regarding applicant's arguments directed to claims 58, 62 and 63 on pages 12-14 of the subject response, the Examiner respectfully maintains that, although these claims have been rejected under 35 USC 112, 1<sup>st</sup> paragraph as not having support in

the original disclosure, they are also taught or fairly suggested by the prior art and further described in the prior art rejections above.

For at least the above reasons, it is respectfully submitted that the rejections must be maintained.

### ***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clark F. Dexter whose telephone number is (571)272-4505. The examiner can normally be reached on Mondays, Tuesdays, Thursdays and Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571)272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Clark F. Dexter/  
Primary Examiner, Art Unit 3724

cf  
March 4, 2008

<b>Notice of References Cited</b>	Application/Control No. 09/680,697	Applicant(s)/Patent Under Reexamination COLLINS, WALTER W.	
	Examiner Clark F. Dexter	Art Unit 3724	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,985,998	01-1991	Howard, Durvyn M.	30/158
*	B	US-5,009,008	04-1991	Yablonovitch, Max	30/158
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

# APPENDIX C



## UNITED STATES DEPARTMENT OF COMMERCE Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO. 087383,822	FILING DATE 01/11/96	FIRST NAMED INVENTOR COLLINS	ATTORNEY DOCKET NO. 20000
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32M1/0724

THOMAS W EPTING  
LEATHERWOOD WALKER TODD & MANN  
100 E COFFEE STREET  
PO BOX 87  
GREENVILLE SC 29602-0087

EXAMINER DEXTER, C
-----------------------

ART UNIT 3204	PAPER NUMBER 8
------------------	-------------------

DATE MAILED: 07/24/97

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



**Office Action Summary**Application No.  
**08/583,822**Applicant(s)  
**Collins**Examiner  
**Clark F. Dexter**Group Art Unit  
**3204**☒ Responsive to communication(s) filed on March 4, 1997 and April 28, 1997☐ This action is **FINAL**.☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**☒ Claim(s) 1-16 and 19 is/are pending in the application.Of the above, claim(s) 3, 11-16, and 19 is/are withdrawn from consideration.☐ Claim(s) \_\_\_\_\_ is/are allowed.☒ Claim(s) 1, 2, and 4-10 is/are rejected.☐ Claim(s) \_\_\_\_\_ is/are objected to.☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.**Application Papers**☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.☒ The specification is objected to by the Examiner.☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**☒ Notice of References Cited, PTO-892☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5, 7☐ Interview Summary, PTO-413☐ Notice of Draftsperson's Patent Drawing Review, PTO-948☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Serial Number: 08/583,822

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Art Unit: 3204

**DETAILED ACTION**

***Election/Restriction***

1. Applicant's election with traverse of Group I, Species A (Figures 1-4C, 6 and 7) which applicant states reads on claims 1, 2 and 4-10 in the responses filed March 4, 1997 and April 28, 1997 (paper nos. 5 and 7) is acknowledged. The traversal is on the ground(s) that groups I and III are not independent and distinct, and that there would not be a serious burden on the Examiner if restriction is not required. This is not found persuasive because inventions the inventions of groups I and III are clearly independent and distinct from each other in that the invention of group I does not require the particulars of the invention of group III, the invention of group III does not require the particulars of the invention of group I as clearly described in the restriction requirement (paper #4). However, the inventions of groups I and III will be considered not to be independent and distinct if applicant states that each invention is obvious one over the other.

Further, the inventions of groups I and III are clearly directed to different inventions which may require different and diverse fields of search and wherein each invention clearly requires a different focus thus presenting a serious burden to consider and search both inventions.

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Art Unit: 3204

The requirement is still deemed proper and is therefore made  
**FINAL.**

***Information Disclosure Statement***

2. The Information Disclosure Statements filed January 11, 1996 and February 12, 1996 have been received and the references thereon considered as indicated on the initialed copies.

***Drawings***

3. The drawings are objected to because in Figure 3, numeral 94 and the left-most numeral 95 are incorrect and appear to have been reversed. In Figure 4A, the free end 81 of shaft 80 should be shown as extending through collar 92 as in Figures 4B and 4C. Further, the openings describe on page 10, line 11 appear to be a critical feature and should be shown and provided with a reference numeral. Correction is required.

***Specification***

4. The disclosure is objected to because of the following informalities:

On page 7, line 1, "24" appears to be incorrect; in line 6, "30" appears to be incorrect; in line 7, "to either of handle portions 12, 14" is unclear, and it seems that it should be changed to --to handle portion 12-- or the like (see lines 11-13

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directed to handle 14); in line 23, it seems that --pin-- is missing after "blade". Appropriate correction is required.

On page 10, line 11, the openings appear to be a critical feature and should be shown and provided with a reference numeral.

5. The specification is objected to as failing to provide clear support for the claim terminology. 37 CFR § 1.75(d)(1) requires that terms and phrases used in the claims find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. Specifically, the term "sleeve" as set forth in claims 6 and 7 does not appear in the specification.

**Claim Rejections - 35 USC § 112**

6. Claims 1, 2 and 4-10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 7, "outside of said blade cavity" is vague since it is not clear as to what is being described as outside of the blade cavity, and it seems that --wherein the blade is-- should be inserted before "outside" or the like; similarly, in line 7, "substantially within the blade cavity" is vague, and it

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seems that --wherein the blade is-- should be inserted before "substantially" or the like.

In claim 4, lines 6-7, "for contacting and restraining movement of the first end of said plunger" renders the limitation vague and indefinite since sufficient structure has not been set forth to perform this function, and it seems that --and in the path of movement of said first end of the plunger-- should be inserted in line 5 after "cavity" or the like.

In claim 5, line 4, "either" is indefinite, and it seems that it should be changed to --one-- or the like.

In claim 6, line 3, structural cooperation is not positively provided between the plunger and the sleeve, and it seems that --plunger extends through said passageway such that said-- should be inserted in line 3 before "first"; in line 4, "said passage" lacks positive antecedent basis.

In claim 7, line 3, structural cooperation is not positively provided between the pivot pins and the handle, and it is suggested to change "for" to --, said pivot pins-- in line 3 or the like.

In claim 10, "said biasing means" lacks antecedent basis.

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**Claim Rejections - 35 USC § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 5 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by French Patent 1,171,740 (FR '740).

FR '740 discloses a folding knife with every structural limitation of the claimed invention including a spring biased plunger (14,15) which is pivotally connected to the housing (at 16) and pivotally connected to the first end of the blade (at 13), and a clip (18).

**Claim Rejections - 35 USC § 103**

9. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention

Serial Number: 08/583,822

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Art Unit: 3204

were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

10. Claim 2 is rejected under 35 U.S.C. § 103 as being unpatentable over French Patent 1,171,740 (FR '740) in view of Thompson et al. 5,131,149 (Thompson '149).

FR '740 lacks the first end of the blade having an extension with a plurality of ridges thereon. Thompson '149 discloses a blade having such a plurality of ridges on a first end of the blade and teaches that it facilitates one-handed actuation of the blade. Therefore, it would have been obvious to one having ordinary skill in the art to provide an extension having a plurality of ridges on the blade of FR '740 for the benefits taught by Thompson '149 including that described above.

11. Claim 4 is rejected under 35 U.S.C. § 103 as being unpatentable over French Patent 1,171,740 (FR '740) in view of German Patent 28,765 (GP '765).

FR '740 lacks a safety member pivotally connected to the handle and including an engagement portion extending into the cavity. However, such safety members are old and well known in the art as evidenced by GP '765 for locking the blade in open and closed positions. Therefore, it would have been obvious to one having ordinary skill in the art to provide a safety member on the folding knife of FR '740 for the well known benefits including that described above.

Serial Number: 08/583,822

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Art Unit: 3204

12. Claim 9 is rejected under 35 U.S.C. § 103 as being unpatentable over French Patent 1,171,740 (FR '740) in view of Brown.

FR '740 has an arcuate slot on the handle cooperating with a pin on the first end of the blade and thus lacks an arcuate slot in the first end of the blade and the handle including a pin carried in the handle. However, it is old and well known in the art to provide an arcuate slot on either one of the handle and the first end of the blade, and a cooperating pin on the other of the handle and the first end of the blade to limit the amount of pivoting, wherein the choice of the specific arrangement may be based on variables such as manufacturing considerations; for example, Brown provides an arcuate slot on the blade and cooperating pin on the handle. Therefore, it would have been obvious to one having ordinary skill in the art to provide an arcuate slot on the blade and cooperating pin on the handle as is known in the art to provide the known well benefits including that described above.

**Allowable Subject Matter**

13. Claims 6-8 appear that they would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112 and to include all of the limitations of the base claim and any intervening claims.



Serial Number: 08/583,822

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Art Unit: 3204

**Conclusion**

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clark Dexter whose telephone number is (703) 308-1404.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1148.



C. Dexter  
July 21, 1997



RINALDI I. RADA  
SUPERVISORY PATENT EXAMINER  
GROUP 3200

# APPENDIX D

<b>Interview Summary</b>	Application No. <b>08/583,822</b>	Applicant(s) <b>Collins</b>	
	Examiner <b>Clark Dexter</b>	Group Art Unit <b>3204</b>	

All participants (applicant, applicant's representative, PTO personnel):

(1) Mr. Thomas Epting (3) \_\_\_\_\_

(2) Mr. Clark Dexter (4) \_\_\_\_\_

Date of Interview Oct 16, 1997

Type: ☐ Telephonic ☒ Personal (copy is given to ☐ applicant ☒ applicant's representative).

Exhibit shown or demonstration conducted: ☒ Yes ☐ No. If yes, brief description:  
Mr. Epting provided a commercially available model of the knife.

Agreement ☐ was reached. ☒ was not reached.

Claim(s) discussed: proposed new claim 1

Identification of prior art discussed:  
French Patent 1,171,740; Thompson '149.

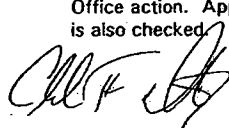
Description of the general nature of what was agreed to if an agreement was reached, or any other comments:  
Mr. Epting agreed to amend the claims to obviate the rejections under 35 USC 112 and to correct the informalities described in the previous Office action (paper #8). Mr. Epting proposed changes to claim 1 which included some of the subject matter of allowable claim 6. The proposed language would include a limitation describing the plunger as being slidably carried by the pivotal connector. Mr. Dexter stated that such an amendment appeared to distinguish the present invention over the French Patent '740.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

1. ☐ It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a response to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

2. ☐ Since the Examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the interview unless box 1 above is also checked.



Examiner Note: You must sign and stamp this form unless it is an attachment to a signed Office action.

# APPENDIX E

702-4100

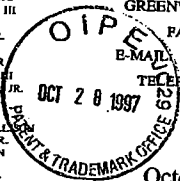
SP-3204/8

LEATHERWOOD WALKER TODD & MANN, P.C.

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EARLE G. PREVOST  
J. RICHARD KELLY  
H. SPENCER KING  
A. MARVIN QUATTLEBAUM  
JACK H. TEDARDS, JR.  
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October 24, 1997

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FLETCHER C. MANN

D.B. LEATHERWOOD  
1896-1989

In re Application Of:

Attorney Docket No.: 28808

WALTER W. COLLINS

Serial Number: 08/583,822

Group Art Unit: 3204

Filed: December 9, 1996

Examiner: DEXTER

For: FOLDING KNIFE WITH ACTUATABLE SAFETY

BOX FEE AMENDMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

RECEIVED

NOV 14 1997

GROUP 3203

Transmitted herewith is an amendment in the above-identified application. The fee has been calculated as shown below:

CLAIMS AS AMENDED						
	Claims Remaining After Amendment	Highest Number Previously Paid For	Extra	Rate		Amount
				Large Entity	Small Entity	
Number of Claims	18	20	0	\$22.00	\$11.00	0.00
Independent Claims	5	4	1	\$82.00	\$41.00	\$41.00
First Presentation of Multiple Dependent Claims				\$270.00	\$135.00	0.00
11/03/1997 SUBMIT 00000027 04543822 01/04/1997 Session Fee: 41.00						
a) 1 Month				\$110.00	\$55.00	0.00
b) Two Months				\$400.00	\$200.00	
c) Three Months				\$950.00	\$475.00	
d) Four Months				\$1510.00	\$755.00	
e) Five Months				\$2060.00	\$1030.00	
Total						\$41.00

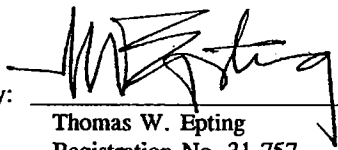
Assistant Commissioner for Patents  
October 24, 1997  
Page 2

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- ☐ No additional fee is required.
- ☒ A check in the amount of \$ 41.00 is attached.
- ☐ Charge \$ \_\_\_\_\_ to Deposit Account No. 12-0760.
- ☒ Charge any additional fees or credit any overpayment to Deposit Account No. 12-0760.
- A verified statement under 37 C.F.R. §§ 1.9 and 1.27.
- ☐ is attached.
- ☒ is of record in this application.

Respectfully submitted,

LEATHERWOOD WALKER TODD & MANN, P.C.

By:   
Thomas W. Epting  
Registration No. 31,757  
P.O. Box 87  
100 East Coffee Street  
Greenville, SC 29602-0087  
(864) 242-6440  
(864) 240-2479 (facsimile)

Certificate of Mailing under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on October 24, 1997.

Name of person mailing correspondence: Sabrina D. Loftis

Sabrina D. Loftis

Dated: October 24, 1997

Certificate of Mailing under 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on October 24, 1997.

Name of person mailing correspondence: Sabrina D. Loftis

Dated: October 24, 1997

Sabrina D. Loftis

ATTORNEY DOCKET NO. 28808



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

WALTER W. COLLINS

Serial Number: 08/583,822

Group Art Unit: 3204

Filed: January 11, 1996

Examiner: DEXTER

For: FOLDING KNIFE WITH ACTUATABLE SAFETY

AMENDMENT AND SUBMISSION  
OF CORRECTED DRAWINGS

BOX FEE AMENDMENT  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In response to the Office Action mailed July 24, 1997, please amend the above application as set forth below.

IN THE SPECIFICATION

Please amend the specification as follows:

Page 7, line 1, delete "Holes 22, 24 are" and insert --Hole 22--;

Page 7, line 7, delete "either of handle portions 12, 14" and insert --handle portion 12--;

Page 7, line 23, after "blade" insert --pin--;

Page 10, line 7, after "a" insert --sleeve, or--;

Page 10, line 7, after "collar" insert -- (comma);

RECEIVED

NOV 14 1997

GROUP 3204

11/17/97  
10/18  
JH  
6/10/97

Page 10, line 11, after "openings" insert --97--; and

Page 10, line 11, delete "(not shown)".

IN THE DRAWINGS

Applicant is submitting herewith for the Examiner's approval proposed changes drawn and circled in red ink for Figure 3, which correct reference numerals 30, 94, and 95; for Figure 4A, which now shows the free end 81 of shaft 80; and Figures 6 and 7, which show openings 97 for receiving pin 95.

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for ~~allowing~~ pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

*longitudinally extending*  
a ~~spring biased~~ plunger carried in said blade cavity having a first end and second end opposite said first end; [said first end of said plunger including]

*pivotal*  
a pivotal connector *for* connected to said handle *longitudinally* pivotally connecting said plunger to said handle, said first end of said plunger being slidably carried by said pivotal connector as said blade moves between said retracted and extended positions; and

said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.

4. (Amended) A knife as set forth in Claim 1, further comprising a safety member pivotally connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into said blade cavity and in the path of movement of said first end of the plunger when said safety member is in said locking position for contacting and restraining movement of said first end of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

5. (Amended) A knife as defined in Claim 1, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent [either] one of said first and second sides of said handle.

6. (Amended) A knife as defined in Claim 1, wherein said pivotal connector includes a sleeve having a passageway, and wherein said first end of said plunger extends through said passageway such that said first end of said plunger moves substantially rectilinearly in said [passage] passageway as said blade is moved between said retracted and extended positions.

7. (Amended) A folding knife as defined in Claim 1, wherein said pivotal connector is a sleeve having diametrically opposed pivot pins attached thereto, said pivot pins [for] pivotally connecting said pivotal connector within said handle.

B3 10. (Amended) A knife as defined in Claim 1, [wherein said biasing means is] further comprising a coil spring encircling said plunger.

Please add new claim 20 as follows:

// 20. A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for

C ~~allowing~~ pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position

wherein the blade is substantially within said blade cavity;

BC4 ~~a spring biased~~ *longitudinally extending* plunger carried in said blade cavity having a first end and second end opposite said first end;

C ~~a sleeve provided in said handle for receiving and slidably carrying said first end~~ *said sleeve longitudinally*  
of said ~~spring biased~~ *BC3* plunger as said blade moves between said retracted and extended positions; and

C said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended position.

#### REMARKS

Applicant appreciates the professional and courteous interview accorded Applicant's representative on October 16, 1997. During the interview, the prior art



of record was discussed, as were proposed amendments to the claims, those amendments being substantially incorporated above.

The application was originally filed with claims 1-18. Claims 17 and 18 were canceled and new claim 19 added in a Preliminary Amendment. A Restriction and Election of Species Requirement was subsequently made by the Examiner, with the end result being that claims 3, 11-16, and 19 were withdrawn from consideration, and claims 1, 2, and 4-10 remained for initial examination.

Submitted for the Examiner's approval are proposed red inked drawing changes to Figures 3, 4A, 6, and 7. The proposed changes to Figures 6 and 7 were discussed during the above interview. It is respectfully submitted that the proposed drawing changes obviate the rejection of the drawings made by the Examiner. Furthermore, it is submitted that the above amendments to the specification also obviate the Examiner's objections thereto.

In the Office Action mailed July 24, 1997, claims 1, 2, and 4-10 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1, 5, and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by French Patent No. 1,171,740 ("FR '740"). Further, claim 2 was rejected under 35 U.S.C. § 103 over a proposed combination of FR '740 and U.S. Patent No. 5,131,149, issued to Thompson et al. Claim 4 was rejected under § 103 over a proposed combination of FR '740 and German Patent No. 28,765, and claim 9 was rejected under § 103 over a proposed combination of FR '740 and U.S. Patent No. 1,701,027, issued to Brown.

The claims have been amended above for the purposes of clarifying the claimed features of Applicant's invention and in order to be in accordance with 35 U.S.C. § 112.

Turning now to the references cited by the Examiner, the FR '740 patent discloses what appears to be a folding knife having a swinging lever 14 with a free end connected to what appears to be a coil spring 15. The device of the FR '740 patent differs significantly from Applicant's device claimed in claim 1. It is noted that, among other things, Applicant recites a folding knife having a spring-biased plunger with the claimed pivotal connector. No such combination of features is found in FR '740, nor in any of the other cited references. Furthermore, it is respectfully submitted that it would not be obvious to combine the cited patents to arrive at these claimed features, as there is no teaching or impetus for doing so.

Regarding the other cited patents, briefly, the Thompson et al. patent recites a folding knife having a blade with a ridged end, but does not meet the deficiencies of the FR '740 patent noted above. Likewise, the German patent, as understood, includes a locking member for engaging with a notch in the end of a folding blade. However, such locking member does not extend into the path of movement of a plunger as recited in the claims, and in particular, in claim 4.

The Brown patent, while disclosing a folding knife having a blade with an arcuate slot, similarly fails to cure the deficiencies noted above with respect to the FR '740 patent.

In view of the foregoing, it is respectfully submitted that rejection of independent claim 1, and the dependent claims which depend therefrom, namely, claims 2, 4, 5, 9, and 10, should be withdrawn.

Claims 6-8 have been indicated to be allowable if amended to overcome the § 112 rejections (which, it is respectfully submitted, has now been done) and to include the limitations of any base and intervening claims. Since, as explained above, claim 1 appears allowable, it is respectfully submitted that dependent claims 6-8 are likewise allowable, and the rejection thereof should be withdrawn.

New claim 20 has been added to recite a sleeve for slidably carrying the first end of the spring-biased plunger as the blade moves between its retracted and extended positions. Claim 20 is readable on the elected species A, which includes Figures 1-4C, 6, and 7. No new matter is believed to have been submitted, and it is respectfully submitted that the features of claim 20 are not found in the cited references.

In view of the foregoing, it is respectfully submitted that all claims which remain in the application are allowable, and as such, Applicant respectfully requests allowance of all claims which have been withdrawn which depend on any allowed generic claim.

Accordingly, passing of the application to allowance is respectfully requested.

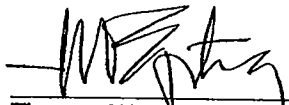
Submitted herewith is the requisite fee for the additional independent claim. In the event any additional fee is incurred upon the filing of the above Amendment,

or if any further petition for extension of time is deemed necessary in order to avoid abandonment of the application, Applicant hereby petitions for such an extension of time and authorizes the Commissioner to charge any such fee or credit any overpayment to Deposit Account No. 12-0760 accordingly.

Respectfully submitted,

LEATHERWOOD WALKER TODD & MANN, P.C.

By:

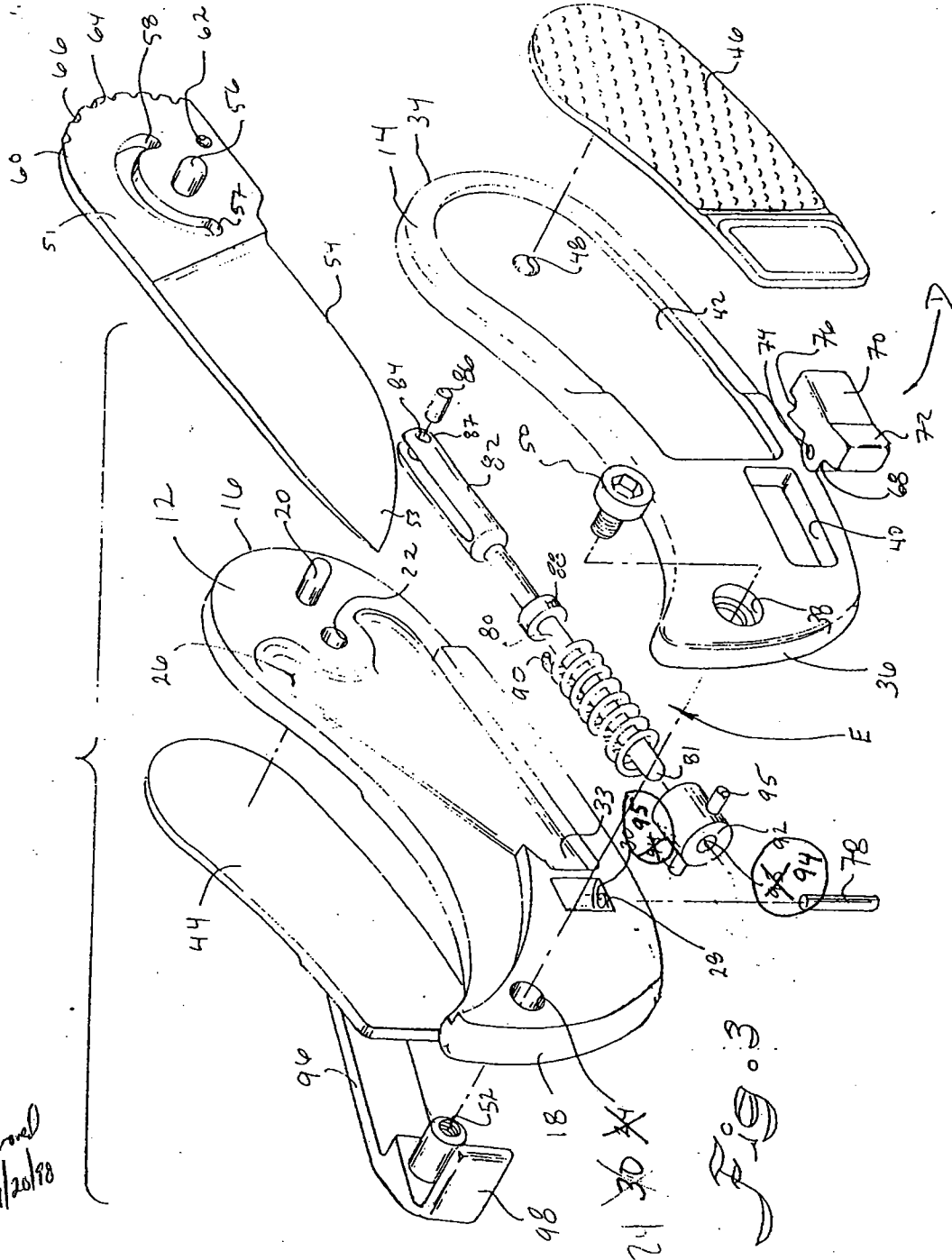
  
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Not approved  
CSD 1/20/88



# APPENDIX F

<b>Interview Summary</b>	Application No. <b>08/583,822</b>	Applicant(s) <b>Collins</b>
	Examiner <b>Clark F. Dexter</b>	Group Art Unit <b>3204</b>

All participants (applicant, applicant's representative, PTO personnel):

(1) Mr. Thomas Epting (3) \_\_\_\_\_

(2) Mr. Clark Dexter (4) \_\_\_\_\_

Date of Interview Jan 19, 1998

Type: ☒ Telephonic ☐ Personal (copy is given to ☐ applicant ☐ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description:

\_\_\_\_\_

Agreement ☒ was reached. ☐ was not reached.

Claim(s) discussed: 1, 6, 9, 11-16, 19, and 20

Identification of prior art discussed:  
None

Description of the general nature of what was agreed to if an agreement was reached, or any other comments:  
Agreed to changes to further clarify the invention, particularly with respect to 35 USC 112, and to correct informalities.  
Also, agreed to cancel claims 11-19 directed to non-elected inventions. Claim 3, formerly withdrawn from consideration,  
has been allowed as depending from allowable claims 1 and 2.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

1. ☒ It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a response to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

2. ☒ Since the Examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the interview unless box 1 above is also checked.

Examiner Note: You must sign and stamp this form unless it is an attachment to a signed Office action.

## APPENDIX G

1. A folding knife, comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

a longitudinally extending plunger carried in said blade cavity having a first end and second end opposite said first end;

a pivotal connector pivotally connected to said handle for pivotally connecting said plunger to said handle, said first end of said plunger being longitudinally slidably carried by said pivotal connector for longitudinal movement of said plunger relative to said pivotal connector as said blade moves between said retracted and extended positions; and

said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

2. A folding knife as defined in claim 1, wherein said blade includes

said first end of said blade having an extension projecting outwardly from said handle when said blade is in said retracted position; said extension defining an extreme edge portion with a plurality of ridges thereon for contact by a user when moving the blade from said retracted position to said extended position.

3. A folding knife as defined in claim 2, wherein said plurality of

ridges are generally saw-tooth-shaped and are generally angled in a direction

substantially opposite to the direction said second end of said blade moves when moving from said retracted position to said extended position.

4. A knife as set forth in claim 1, further comprising a safety member pivotally connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into said blade cavity and in the path of movement of said first end of the plunger when said safety member is in said locking position for contacting and restraining movement of said first end of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

5. A knife as defined in claim 1, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent one of said first and second sides of said handle.

6. A knife as defined in claim 1, wherein said pivotal connector includes a sleeve having a passageway, and wherein said first end of said plunger extends through said passageway such that said first end of said plunger moves substantially rectilinearly in said passageway during said longitudinal movement of said plunger as said blade is moved between said retracted and extended positions.

7. A folding knife as defined in claim 1, wherein said pivotal connector is a sleeve having diametrically opposed pivot pins attached thereto, said pivot pins pivotally connecting said pivotal connector within said handle.

8. A folding knife as set forth in claim 1, wherein said second end of said plunger includes a clevis having a pin pivotally connected to said first end of said blade.



9. A folding knife as defined in claim 1, wherein said first end of said blade includes an arcuate slot and wherein said handle includes a pin carried in said arcuate slot, said arcuate slot having a first end and a second end, and said first end of said arcuate slot limiting said blade from movement beyond said extended position.

10. A knife as defined in claim 1, further comprising a coil spring encircling said plunger.

11. A folding knife, comprising:  
a handle defining a blade cavity and a first end;  
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

a longitudinally extending plunger carried in said blade cavity and having a first end and a second end wherein said second end is opposite said first end;

a pivoting sleeve provided in said handle, said sleeve receiving and longitudinally slidably carrying said first end of said plunger for longitudinal movement of said plunger relative to said sleeve as said blade moves between said retracted and extended positions; and

said second end of said plunger being pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

12. A folding knife, comprising:  
a handle defining a blade cavity and a first end;  
a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for

pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity; and

a spring biased plunger assembly configured to provide a spring force to assist to maintain the blade in the extended position while the blade is in the extended position, and a spring force to assist to retain the blade in the retracted position while the blade is in the retracted position, the plunger assembly having:

a first end slidably and pivotably connected to said handle for longitudinal and/or pivotal movement of said plunger assembly relative to said handle as said blade moves between said retracted and extended positions; and

a second end opposite said first end, said second end of said plunger assembly pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions.

13. The knife as defined in claim 12, wherein said blade includes said first end of said blade having an extension projecting outwardly from said handle when said blade is in said retracted position; said extension defining an extreme edge portion with a plurality of ridges thereon for contact by a user when moving the blade from said retracted position to said extended position.

14. (Canceled)

15. A folding knife comprising:

a handle defining a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having a blade pivot connected to said first end of said handle for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the blade is substantially within said blade cavity;

a spring biased plunger assembly configured to provide a spring force to assist to maintain the blade in the extended position while the blade is in the extended position, and a spring force to assist to retain the blade in the retracted position while the blade is in the retracted position, the plunger assembly having:

a first end slidably and pivotably connected to said handle for longitudinal and/or pivotal movement of said plunger assembly relative to said handle as said blade moves between said retracted and extended positions; and

a second end opposite said first end, said second end of said plunger assembly pivotally connected to said first end of said blade for orbital movement about said blade pivot as said blade moves between said retracted and extended positions; and

a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into the path of movement of said plunger assembly for contacting said plunger.

16. A knife as defined in claim 12, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent one of said first and second sides of said handle.

17. A knife as defined in claim 12, wherein said second end of said plunger assembly includes a clevis having a pin pivotally connected to said first end of said blade.

18. A knife as defined in claim 12, wherein said first end of said blade includes an arcuate slot and wherein said handle includes a pin carried in said arcuate slot, said arcuate slot having a first end and a second end, and said first end of said arcuate slot limiting said blade from movement beyond said extended position.

19. A knife as defined in claim 12 wherein the plunger assembly comprises a plunger and a spring operatively interconnecting said plunger to said handle.

20. A knife as defined in claim 19, wherein the spring exerts a pivoting force upon the blade in response to the spring being deformed, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.

21. A knife as defined in claim 12 wherein the plunger assembly comprises a plunger and a coil spring operatively interconnecting said plunger to said handle.

22. A knife as defined in claim 21, wherein the coil spring encircles said plunger.

23. A folding knife, comprising:  
a handle having a blade cavity and a first end;  
a blade having a first end and a second end opposite said first end, said first end of said blade having an aperture;

a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is within said blade cavity; and

a plunger including a spring, the plunger pivotally connected to the blade at a first end, and pivotally coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of

the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point.

24. A knife as defined in claim 23, wherein said blade includes said first end of said blade having an extension projecting outwardly from said handle when said blade is in said retracted position; said extension defining an extreme edge portion with a plurality of ridges thereon for contact by a user when moving the blade from said retracted position to said extended position.

25. A knife as defined in claim 23, further comprising a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

26. (Canceled)

27. A knife as defined in claim 23, further comprising said handle defining a first side and a second side opposite said first side and a belt clip connected to said handle adjacent one of said first and second sides of said handle.

28. A knife as defined in claim 23, wherein the first end of said plunger includes a clevis having a pin pivotally connected to said first end of said blade.

29. A knife as defined in claim 23, wherein said first end of said blade includes an arcuate slot and wherein said handle includes a pin carried in said arcuate slot, said arcuate slot having a first end and a second end, and said first end of said arcuate slot limiting said blade from movement beyond said extended position.

30-33. (Canceled)

34. A folding knife comprising:

a handle;

a blade pivoted on said handle for movement between stowed and deployed conditions relative to the handle; and

an elongate, force-transmitting biasing spring having a variable length, the spring operatively attached between said blade and said handle, where said spring exhibits both an increase and a decrease in the length of the spring as said blade is moved from the stowed condition to the deployed condition.

35. (Canceled)

36. The knife of claim 34 wherein the operative attachment of said spring to said blade comprises a plunger operatively interconnecting the spring to the blade.

37. A knife as defined in claim 36, further comprising a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into the path of movement of said plunger for contacting said plunger.

38-44. (Canceled)

45. A knife comprising:

a handle;

a blade pivotally coupled to the handle to be moveable about a blade pivot point, such that the blade moves between a stowed position and a deployed position;

a plunger coupled between the handle and the blade such that a portion of the plunger remains a fixed distance from the blade pivot point; and

a spring coupled to the plunger to act on the blade to urge the blade into the stowed position when the blade is moved to the stowed position, and operates on the blade to urge the blade toward the deployed position when the blade is moved by an outside force from the stowed position at least partially toward the deployed position.

46-51. (Canceled)

52. A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, between a retracted position and an extended position;

biasing means for holding the blade in the retracted position in the handle while the blade is in the retracted position and for biasing the blade toward the extended position relative to the handle when the blade is moved from the retracted position past a point of maximum bias toward the extended position; and

moving means for moving the blade from the retracted position to the extended position with one hand while holding the knife with the same one hand.

53. (Canceled)

54. The folding knife of claim 52 wherein the moving means comprises at least one of a plurality of ridges formed on the tang of the blade, a plurality of directional saw-like teeth formed on the tang of the blade, or a pin coupled to an upper portion of the blade.

55-57. (Canceled)

58. A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin coupled to the blade and extending outward from the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand;

a biasing element including a spring;

a first coupling element operatively coupling a first end of the biasing element to the handle; and

a second coupling element operatively coupling a second end of the biasing element to the blade.

59. The knife of claim 58 wherein the biasing element is arranged such that the spring thereof increases in tension to a point of maximum tension as the blade is moved through the arc from the retracted position toward the extended position, then decreases in tension as the blade continues past the point of maximum tension toward the extended position.

60. The knife of claim 58 further including a plurality of ridges positioned on the tang of the blade.

61. (Canceled)

62. A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;



a contact pin on the blade, positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand;

a biasing element including a spring, configured to apply a closing force to the blade while the blade is in the retracted position;

a first coupling element operatively coupling a first end of the biasing element to the handle; and

a second coupling element operatively coupling a second end of the biasing element to the blade.

63. A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply an opening force to the blade with a thumb or finger of the same hand;

a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position;

a first coupling element operatively coupling a first end of the biasing element to the handle; and

a second coupling element operatively coupling a second end of the biasing element to the blade.

64. (Canceled)

65. A folding knife, comprising:

a handle having a blade cavity and a first end;

a blade having a first end and a second end opposite said first end; said first end of said blade having an aperture;

a blade pivot connected to said first end of said handle and extending through the aperture for pivotal movement of said blade about said blade pivot between an extended position wherein the blade is outside of said blade cavity and a retracted position wherein the majority of the blade is within said blade cavity;

a plunger including a spring, the plunger pivotally connected to the blade at a first end, and operatively coupled to the handle at a second end, the spring being maximally deformed when the blade is pivoted to an intermediate point between the extended position and retracted position, thereby causing the spring to assist opening of the blade when the blade is pivoted from the retracted position toward the extended position beyond the intermediate point; and

a safety member connected to said handle for movement between a locking position and an unlocking position; said safety member defining an engagement portion projecting into a path of movement of said plunger when said safety member is in said locking position for contacting and restraining movement of said plunger when said blade is in said extended position, to thereby lock said blade in said extended position.

66. A folding knife comprising:

a handle;

a blade having a tang coupled to the handle, the blade configured to rotate, relative to the handle, through an arc between a retracted position and an extended position when an opening force is applied to the blade;

a contact pin on the blade, extending perpendicular to a plane of travel of the blade and positioned such that a user, holding the knife in one hand, can apply opening force to the blade with a finger of the same hand;

a biasing element including a spring, configured to resist rotation of the blade toward the extended position while the blade is in the retracted position;

a first coupling element operatively coupling a first end of the biasing element to the handle;

a second coupling element operatively coupling a second end of the biasing element to the blade; and

a locking member positioned in the handle and having a first position in which the blade may be freely moved between the retracted and extended positions and a second position in which the blade is locked in the extended position.